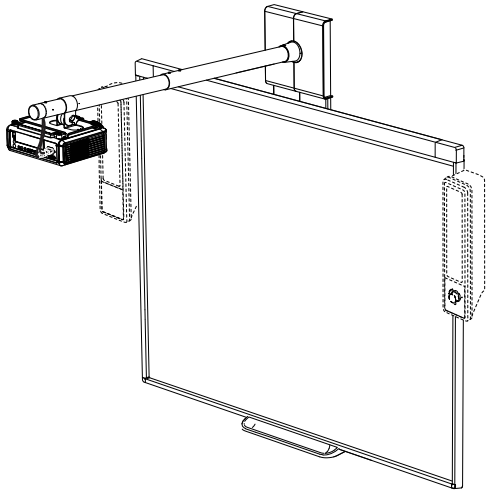

# SMART Board™ 480iv

## Interactive whiteboard system

**Configuration and user's guide**

Extraordinary made simple™

# Product registration

If you register your SMART product, we'll notify you of new features and software upgrades.

Register online at smarttech.com/registration.

Keep the following information available in case you need to contact SMART Support.

Serial number: _____

Date of purchase: _____

**FCC warning**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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One or more of the following patents: US6320597; US6326954; US6540366; US6741267; US6803906; US6954197; US7151533; US7184030; US7236162; US7342574; US7379622; US7532206; US7619617; US7629987; US7692625; US7751671; US7757001; USD612396; USD616462; USD617332; and USD636784. Other patents pending.

07/2011

# Important information

Before you install and use your SMART Board™ 480iv interactive whiteboard system, read and understand the safety warnings and precautions in this user's guide and the included warnings document. These safety warnings and precautions describe the safe and correct operation of your interactive whiteboard system and its accessories, helping you to prevent injuries and equipment damage. Ensure that your interactive whiteboard system is always being used correctly.

In this document, "SMART Board 480iv interactive whiteboard system" refers to your SMART Board 480 interactive whiteboard and its SMART V25 projector, accessories and optional equipment.

The SMART V25 projector included with your system is designed to work only with certain SMART Board interactive whiteboard models. Contact your authorized SMART reseller (smarttech.com/where) for more information.

## Safety warnings, cautions and important information

**WARNING**

- Failure to follow the installation instructions shipped with your SMART product could result in personal injury and damage to the product.
- To reduce the risk of fire or electric shock, do not expose the SMART product to rain or moisture.
- Two people are required to mount your SMART product because it may be too heavy for one person to safely maneuver.

  When you lift your interactive whiteboard, you and your assistant should stand on either side of the screen, supporting its weight at the bottom while balancing the top with your other hands.
- When mounting the projector boom on a framed or hollow wall, attach both the mounting bracket and the safety tether to a stud to safely support the projector's weight. If you use only drywall anchors, the drywall can fail, resulting in possible personal injury, and damage to the product which may not be covered by your warranty.

- Do not leave cables on the floor where they can be a tripping hazard. If you must run a cable over the floor, lay it in a flat, straight line and secure it to the floor with tape or a cable management strip of a contrasting color. Handle cables carefully and avoid excessive bending.
- Do not climb (or allow children to climb) on a wall- or stand-mounted SMART Board interactive whiteboard.

  Do not climb on, hang from or suspend objects from the projector boom.

  Climbing on the interactive whiteboard or projector boom could result in personal injury or product damage.
- For warnings related to the projector's 3D support, see smarttech.com/support/3Dwarnings.

**CAUTION**

- Do not operate this unit immediately after moving it from a cold location to a warm location. When the unit is exposed to such a change in temperature, moisture can condense on the lens and crucial internal parts. Allow the system to stabilize to room temperature before operation to prevent possible damage to the unit.
- Do not place the unit in hot locations, such as near heating equipment. Doing so could cause a malfunction and shorten the life of the projector.
- Avoid setting up and using the SMART product in an area with excessive levels of dust, humidity and smoke.
- Do not place your SMART product in direct sunlight or near any appliance that generates a strong magnetic field.
- If you need to lean the interactive whiteboard against a wall before you mount it, make sure it remains in an upright position.

  Do not rest the interactive whiteboard on its side or on the top of the frame.
- You must connect the USB cable that came with your SMART Board interactive whiteboard to a computer that has a USB compliant interface and that bears the USB logo. In addition, the USB source computer must be compliant with CSA/UL/EN 60950 and bear the CE mark and CSA and/or UL Mark(s) for CSA/UL 60950. This is for operating safety and to avoid damage to the SMART Board interactive whiteboard.

- Do not block the projector's ventilation slots and openings.
- Avoid putting the projector into Standby mode during the lamp ignition phase because this can lead to premature lamp failure. Keep the projector lamp on for a minimum of 30 minutes before putting it into Standby mode to preserve the lamp life.
- In a high altitude location over 1800 m (6000'), where the air is thin and cooling efficiency is reduced, use the projector with the fan mode set to High.
- Cycling power to the projector repeatedly can lock or damage your SMART product. After you put the product into Standby mode, wait at least 30 minutes for cooling before starting the product again.
- Do not adjust any settings in the service menu other than those listed in the following procedures. Changing other settings might damage or affect the operation of your projector and may invalidate your warranty.
- Before you clean the SMART V25 projector, press the **Power** ⏻ button twice on the Extended Control Panel (ECP) or remote control to put the system into Standby mode, and then allow the lamp to cool for 30 minutes.
- Do not spray cleaners, solvents or compressed air near any part of the projector because they can damage or stain the unit. Spraying the system could spread a chemical mist on some of the projector's components and lamp, resulting in damage and poor image quality.
- Do not allow liquids or commercial solvents of any kind to flow into the projector.
- When transporting your SMART product, repack it with as much of the original packaging as possible. This packaging was designed with optimal shock and vibration protection.
- If your SMART product requires replacement parts, make sure the service technician uses replacement parts specified by SMART Technologies or parts with the same characteristics as the original.

**IMPORTANT**

- Use the instructions included with your SMART V25 projector to install your interactive whiteboard and projector. The instructions in your SMART Board interactive whiteboard box do not include instructions for installing the SMART V25 projector.
- Make sure an electrical socket is near your SMART product and remains easily accessible during use.
- Using your SMART product near a TV or radio could cause interference to the images or sound. If this happens, move the TV or radio away from the projector.
- If you have peripheral devices that do not use a 4-pin mini-DIN connector or an RCA composite video jack, or if your device has an audio connection that does not use RCA jacks, you may need to purchase third-party adapters.
- Keep your remote control in a safe place because there is no other way to access menu options.
- Put your SMART product into Standby mode before cleaning it.
- Follow these guidelines to clean the projector:
    - Wipe the exterior of the projector with a lint-free cloth.
    - If necessary, use a soft cloth moistened with a mild detergent to clean the projector housing.
    - Do not use abrasive cleaners, waxes or solvents.
    - Avoid touching the lens. If it is necessary to clean the lens:
        - Use liquids or commercial solvents (such as glass cleaners) to clean the lens, but do not spray them directly on the system.
        - Use protective gloves and dip a lint-free cloth (such as Purestat PW2004) in an anti-static solvent (such as Hyperclean EE-6310).
        - Gently wipe the lens from the center to the edge.
- Disconnect the product from its power source when it’s not used for a long period.

# Environmental requirements

Before you install your SMART Board 480iv interactive whiteboard system, review the following environmental requirements.

| Environmental requirement | Parameter |
|---|---|
| Operating temperature | • 5°C to 35°C (41°F to 95°F) from 0 m to 1800 m (0' to 6000')<br>• 5°C to 30°C (41°F to 86°F) from 1800 m to 3000 m (6000' to 9800') |
| Storage temperature | • -20°C to 70°C (-4°F to 158°F) at 5% to 90% relative humidity (non-condensing) |
| Humidity | • 30% to 80% relative humidity, non-condensing<br>• 5% to 85% relative humidity at 0 m to 3000 m (0' to 9800') |
| Water and fluid resistance | • Intended for indoor use only. Doesn't meet any salt-spray or water ingress requirements.<br>• Don't pour or spray liquids directly onto your interactive whiteboard, the SMART V25 projector or any of its sub-components. |
| Dust | • Intended for use in office and classroom environments. Not for industrial use where heavy dust and pollutants can cause malfunctions or impaired operation. Periodic cleaning is required in areas with heavier dust.<br>• Designed for pollution degree 1 (P1) as per EN61558-1, which is defined as "No pollution or only dry non-conductive pollution". |
| Electrostatic discharge (ESD) | • EN61000-4-2 severity level 4 for direct and indirect ESD<br>• No malfunction or damage up to 8kV (both polarities) with a 330 ohm, 150 pF probe (air discharge)<br>• Unmated connectors meet no malfunction or damage up to 4kV (both polarities) for direct (contact) discharge |
| Cables | • All SMART Board 480iv interactive whiteboard system cables should be shielded to prevent potential accidents and degraded video and audio quality. |
| Conducted and radiated emissions | • EN55022/CISPR 22, Class A |

# Contents

**Important information** ..... **i**

Safety warnings, cautions and important information ..... i
Environmental requirements ..... v

**Chapter 1: About your interactive whiteboard system** ..... **1**

SMART Board 480iv interactive whiteboard system features ..... 2
Included accessories ..... 4
Optional accessories ..... 4

**Chapter 2: Installing your interactive whiteboard system** ..... **5**

Choosing a location ..... 5
Choosing a height ..... 6
Securing the interactive whiteboard system ..... 6
Installing your audio system ..... 6
Routing the cables ..... 7
Installing SMART software ..... 8

**Chapter 3: Using your interactive whiteboard system** ..... **9**

Using your projector ..... 9
Using your interactive whiteboard ..... 21

**Chapter 4: Integrating other devices** ..... **23**

Video format compatibility ..... 23
Connecting peripheral sources and outputs ..... 25

**Chapter 5: Maintaining your interactive whiteboard system** ..... **27**

Maintaining your interactive whiteboard ..... 27
Focusing and adjusting the projector image ..... 27
Replacing the projector lamp ..... 28

**Chapter 6: Troubleshooting your interactive whiteboard system** ..... **37**

Correcting image alignment issues ..... 38
Diagnosing issues using the interactive whiteboard system indicators and controls ..... 38
Resolving network communication issues ..... 43
Resolving audio issues ..... 43
Resolving video issues ..... 44
Resolving image issues ..... 44
Accessing the service menu ..... 49
Locating serial numbers ..... 51

Transporting your interactive whiteboard system ..... 51

**Appendix A: Remotely managing your interactive whiteboard system ..... 53**

Web page management ..... 54
Connecting your room control system to the SMART V25 projector ..... 58
Projector programming commands ..... 60
Simple Network Management Protocol (SNMP) ..... 70

**Appendix B: Hardware environmental compliance ..... 71**

Waste Electrical and Electronic Equipment regulations (WEEE directive) ..... 71
Restriction of Certain Hazardous Substances (RoHS directive) ..... 71
Batteries ..... 71
Packaging ..... 72
China's Electronic Information Products regulations ..... 72
U.S. Consumer Product Safety Improvement Act ..... 72

**Index ..... 73**

Chapter 1

# About your interactive whiteboard system


SMART Board 480iv interactive whiteboard system features ..... 2
- SMART Board 480 interactive whiteboard ..... 2
- SMART V25 projector ..... 3

Included accessories ..... 4
- Pen ..... 4
- Remote control ..... 4

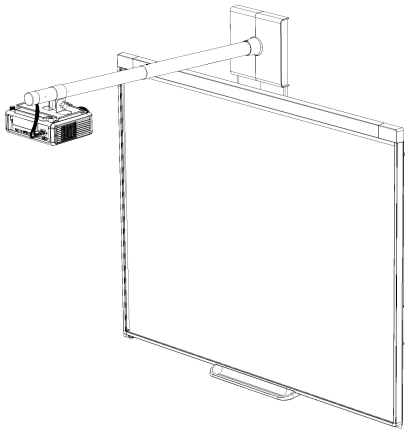
Optional accessories ..... 4


Your SMART Board 480iv interactive whiteboard system combines the wall-mounted, short-throw SMART V25 projector with a SMART Board 480 interactive whiteboard.

This chapter describes the features of your interactive whiteboard and provides information about product parts and accessories.

# SMART Board 480iv interactive whiteboard system features

Your SMART Board 480iv interactive whiteboard system consists of the SMART Board 480 interactive whiteboard and the SMART V25 projector system.



When the SMART V25 projector displays an image from your computer on the touch-sensitive interactive whiteboard, you can do everything that you can do at your computer—open and close applications, scroll through files, meet with others, create new documents or edit existing ones, visit websites, play video clips and more—by touching the screen.

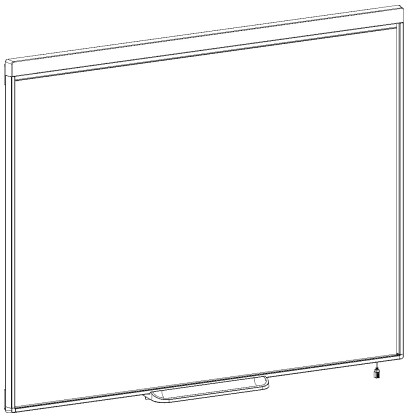
When you use SMART software with your SMART Board 480iv interactive whiteboard system, you can write or draw over the projected computer image in digital ink, and then save these notes to a .notebook file or directly into any Ink Aware application.

## SMART Board 480 interactive whiteboard

Your SMART Board 480 interactive whiteboard is durable and reliable. It features a rugged, hardened interactive surface, a damage-resistant pen and SMART's proprietary DViT™ (Digital Vision Touch) technology.

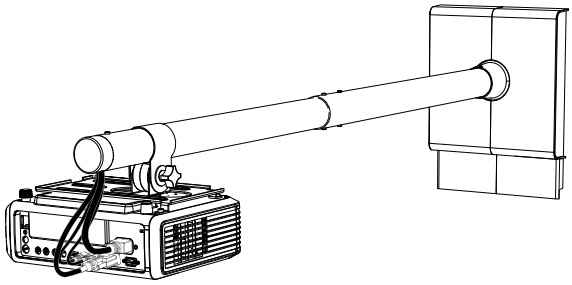
Other features of your interactive whiteboard include the following:

- A pen tray that holds up to two pens
- A durable hard-coated surface optimized for projection and easy to clean



## SMART V25 projector

The SMART V25 projector system includes a projector for use with SMART Board 480 interactive whiteboards and a sturdy support system for many different environments.



The features of the projector system include the following:

- A wall-mounted projector that uses DLP® technology by Texas Instruments™, providing BrilliantColor™ performance and Gamma 2.2 correction with SMART Presentation, Bright Room, Dark Room, sRGB and User modes
- PAL, PAL-N, PAL-M, SECAM, NTSC, NTSC 4.43 video system compatibility
- Composite, S-video and VESA® RGB with additional interface support for Component YPbPr and Component YCbCr inputs with appropriate adapters (not included)
- QVGA, VGA, SVGA, XGA, SXGA, SXGA+ and UXGA video format compatibility
- Native 1024 × 768 resolution
- Remote management via a serial RS-232 interface
- An alert broadcast feature that enables administrators to send notification messages to network-connected SMART V25 projector systems for immediate on-screen display
- A 3D-ready projector using DLP Link™ technology ensures compatibility with the emerging 3D content ecosystem
- A self-protection timer for a hot re-strike of the projector lamp
- Protected cable routing to prevent tampering and clutter
- A secure mounting and installation system that includes
    - An optional projector lock ring to prevent removal of the projector from the boom
    - A safety tether
    - Templates and instructions for positioning the system in a safe manner

# Included accessories

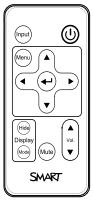
The following accessories are included with your interactive whiteboard system.

## Pen

One pen is included with your interactive whiteboard.

## Remote control

The remote control enables you to control the system and set up your SMART V25 projector. Use the remote control to access menu options, system information and input selection options.




# Optional accessories

You can add a variety of accessories to your interactive whiteboard to best meet your specific needs. Purchase these items from your authorized SMART reseller (smarttech.com/where) when you order your interactive whiteboard system or later.

For more information on accessories, go to smarttech.com/accessories.

Chapter 2

# Installing your interactive whiteboard system

Choosing a location ..... 5
Choosing a height ..... 6
Securing the interactive whiteboard system ..... 6
Installing your audio system ..... 6
Routing the cables ..... 7
Installing SMART software ..... 8

Consult the SMART Board 480iv interactive whiteboard system installation document included with your product for instructions on how to install your product and use the mounting template.

**IMPORTANT**

Use the instructions included with your SMART V25 projector to install your interactive whiteboard and projector. The instructions in your SMART Board interactive whiteboard box do not include instructions for installing the SMART V25 projector.

This chapter provides additional considerations and details for installing your interactive whiteboard system.

## Choosing a location

Choose a location for your interactive whiteboard system that's far from bright light sources, such as windows and strong overhead lighting. Bright light sources can cause distracting shadows on your interactive whiteboard and can reduce the contrast of the projected image.

Select a wall with a flat, regular surface and sufficient clearance to accommodate your interactive whiteboard system. Install the projector and your interactive whiteboard on the same flat surface. For best presentation alignment, mount your interactive whiteboard system in a location central to your audience's viewing direction. For mobile or adjustable installation options, contact your authorized SMART reseller (smarttech.com/where).

# Choosing a height

SMART includes a mounting template with each interactive whiteboard system. If you lose this template, contact your authorized SMART reseller (smarttech.com/where). Using this template ensures that you can do the following:

- Mount the projector at a safe height for head space clearance, while maintaining enough space for airflow and installation access above the unit.
- Position the projector at the correct height above your interactive whiteboard to align the projected image with the touch screen.

Dimensions on the template recommend a distance from the floor suitable for adults of average height. You should consider the general height of your user community when you choose a position for your interactive whiteboard.

# Securing the interactive whiteboard system

To learn how to secure the SMART V25 projector to the boom, see the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153).

# Installing your audio system

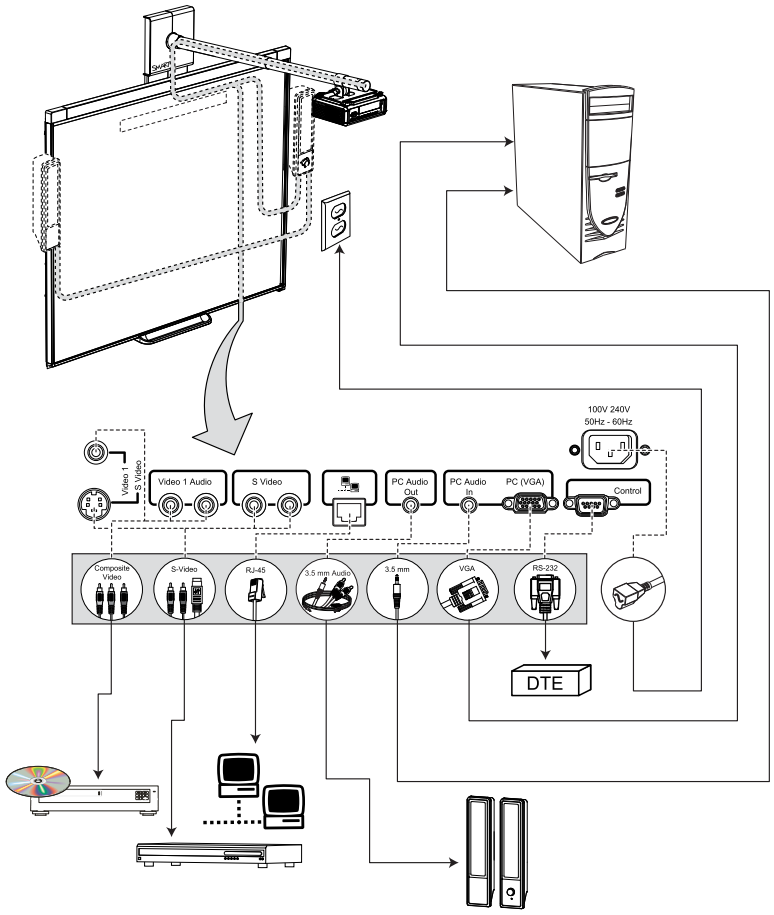
Your SBA-V projection audio system comes with two SBA-V speakers and mounting brackets. Your audio system also includes a switching power supply and the cabling required to connect your audio system to your interactive whiteboard and projector.

Before you connect the audio system to the projector, you must install the speaker brackets, speakers and speaker cable clips. Mount the speakers directly to your interactive whiteboard. Connect the speakers to the projector connection panel using the dual-channel (left and right) RCA plug-to-3.5 mm phone connector cable included with the speakers.

To learn how to install your audio system, see the installation instructions for the 20W audio system for SMART Board interactive whiteboards (smarttech.com/kb/158089).

# Routing the cables

When connecting cables from a SMART V25 projector to your computer, make sure that all cables pass along the top of the interactive whiteboard wall-mounting bracket and then down the side of the interactive whiteboard.




**NOTE**

Don’t connect the power cable to a power outlet until you connect all the cables to the projector.

# Installing SMART software

You must install SMART software on the computer connected to your interactive whiteboard system to access all of its features.

Download SMARTsoftware from smarttech.com/software. These pages list the minimum hardware requirements for each software version. If SMART software is already installed on your computer, take this opportunity to upgrade your software to ensure compatibility.

**IMPORTANT**

Don't connect your computer and your interactive whiteboard until you install SMART software.

Chapter 3

# Using your interactive whiteboard system


Using your projector ..... 9
- Using your remote control ..... 9
- Focusing the image ..... 18
- Adjusting the image ..... 19
- SMART V25 projector connection diagram ..... 19

Using your interactive whiteboard ..... 21


This chapter describes the basic operation of your interactive whiteboard system and explains how to set up your remote control, retrieve system information, access the projector's image adjustment options and integrate your interactive whiteboard system with peripheral devices.

## Using your projector

This section explains how to use your projector and its included remote control.

### Using your remote control

The SMART V25 projector remote control enables you to access on-screen projector menus and change projector settings.

**Installing the remote control battery**

Follow this procedure to use the remote control for the first time or to replace the remote control battery.

**WARNING**

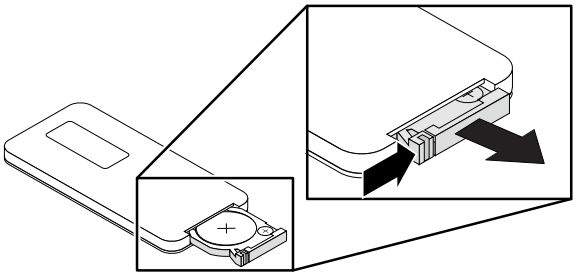
- Reduce the risk associated with a leaking battery in the projector's remote control by following these practices:

- Use only the specified type of coin-cell battery.
- Orient the battery's positive (+) and negative (–) terminals according to the markings on the remote control.
- Remove the battery when the remote control is unused for an extended period.
- Do not heat, disassemble, short or recharge the battery, or expose it to fire or high temperatures.
- Avoid eye and skin contact with the battery if it has a leak.

- Dispose of the exhausted battery and product components in accordance with applicable regulations.

### To access or replace the remote control battery

1. Hold down the side release on the left side of the battery holder and pull the battery holder completely out of the remote control.



2. Remove the old battery from the battery holder and replace it with a CR2025 coin-cell battery.

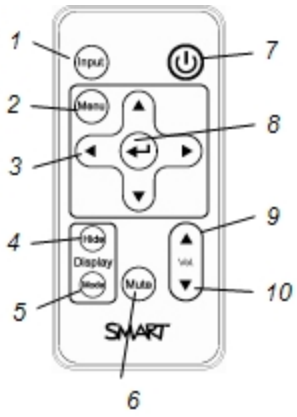
**IMPORTANT**

Align the positive (+) and negative (–) signs on the battery terminals with the correct signs on the battery holder.

3. Insert the battery holder into the remote control.

### Using the remote control buttons

The projector remote control enables you to access on-screen menus and change projector settings. Use the **Power** ⏻ button on the remote control to put the projector into Standby mode or turn it on. You can also use the **Input** button on the remote control to switch sources on the projector.




| Number | Function | Description |
|---|---|---|
| 1 | Input | Select an input source |
| 2 | Menu | Show the projector menus |
| 3 | ◂ (Left), ▸ (Right), ▲ (Up) and ▼ (Down) arrows | Change the menu selections and adjustments |
| 4 | Hide | Freeze, hide or display the image<br>• Press once to freeze the image. For example, you can display a question on the screen while you check your e-mail.<br>• Press again to hide the image, that is, to display a black screen.<br>• Press again to return to the live image. |
| 5 | Mode | Select a display mode |
| 6 | Mute | Control mute settings from your audio output device (not included) |
| 7 | ⏻ (Power) | Put the projector into Standby mode or turn it on |
| 8 | ↵ (Enter) | Accept the selected mode or option |
| 9 | ▲ (Volume Up) | Increase the volume |
| 10 | ▼ (Volume Down) | Decrease the volume |

### Adjusting projector settings

The remote control's **Menu** button enables you to access the on-screen display to adjust the projector settings.

**IMPORTANT**

Keep your remote control in a safe place because you are unable to access projector menu options using any other means.

| Setting | Use | Notes |
|---|---|---|
| **Image Adjustment menu** | | |
| Display Mode | Indicates the projector's display output (**SMART Presentation**, **Bright Room**, **Dark Room**, **sRGB** and **User**). | The default is SMART Presentation. |
| Brightness | Adjusts projector brightness from 0 to 100. | The default is 50. |
| Contrast | Adjusts the difference between the lightest and darkest parts of the image from 0 to 100. | The default is 50. |
| Frequency | Adjusts the display data frequency of the projected image from -5 to 5 to match the frequency of your computer's graphics card. | The default is 0.<br>This setting applies to VGA inputs only. |
| Tracking | Synchronizes your projector's display timing with your computer's graphics card from 0 to 63. | This setting applies to VGA inputs only. |
| H-position | Moves the projected image's horizontal position left or right from 0 to 100. | Don't adjust this setting unless you're advised to by SMART Techincal Support (smarttech.com/contactsupport).<br>You can apply this setting only after you make all boom adjustments.<br>This setting applies to VGA inputs only. |
| V-position | Moves the projected image's vertical position up or down from -5 to 5. | Don't adjust this setting unless you're advised to by SMART Techincal Support (smarttech.com/contactsupport).<br>You can apply this setting only after you make all boom adjustments.<br>This setting applies to VGA inputs only. |
| Saturation | Adjusts the projected image's color saturation from 0 to 100. | This setting applies to S-video and composite video inputs only. |
| Sharpness | Adjusts the projected image's sharpness from 0 to 31. | This setting applies to S-video and composite video inputs only. |
| Tint | Adjusts the image color balance of red and green from 0 to 100. | This setting applies to S-video and composite video inputs only. |

| Setting | Use | Notes |
|---|---|---|
| White Peaking | Adjusts the image color brightness from 0 to 10 while providing more vibrant white shades. | A value closer to 0 creates a natural image and a value closer to 10 enhances brightness. |
| Degamma | Adjusts the color performance of the display from 0 to 3. | |
| Color | Adjusts the Red, Green, Blue, Cyan, Magenta and Yellow colors on the projector from 0 to 100 to provide custom color and luminance output. | Each color has a default value of 100.<br>Adjustments to the color settings register under the User mode. |
| **Audio menu** | | |
| Volume | Increases and decreases the projector's volume from 0 to 40. | The default is 20. |
| Mute | Mutes the projector's audio output. | If you mute the projector's audio output and then increase or decrease the volume, the volume is restored automatically. You can prevent this from happening by disabling the volume control. |
| Disable Volume Control | Disables the projector's volume control. | |
| Closed Captioning | Turns closed captioning on or off. | |
| Closed Captioning Language | Sets the closed captioning language to **CC1** or **CC2**. | Typically, **CC1** displays American English subtitles, while **CC2** displays other regional languages, such as French or Spanish, depending on television channel or media setup. |

| Setting | Use | Notes |
|---|---|---|
| **Default menu** | | |
| 3D On/Off | Turns the 3D feature on or off. | The default is off. |
| 3D Format | Displays the current 3D format (**Interleaved** or **Under-over**). | **Interleaved** breaks down the image frame for each eye, alternately displaying a line of visual information from each frame.<br>**Under-over** concurrently displays horizontally stretched image frames for each eye, one above the other. |
| 3D Invert Left-Right | Selects the 3D Invert setting (**L-R** or **R-L**). | **L-R** displays visual data for the left eye first.<br>**R-L** displays visual data for the right eye first. |
| Auto Signal Detect | Enables or disables signal searching of input connectors. | Select **On** to have the projector continuously switch inputs until it finds an active video source.<br>Select **Off** to maintain signal detection in one input. |
| Lamp Reminder | Turns the lamp replacement reminder on or off. | This reminder appears 100 hours before the recommended lamp replacement. |
| Lamp Mode | Adjusts lamp brightness to **Standard** or **Economy**. | **Standard** displays a high-quality, bright image.<br>**Economy** increases the lamp life by decreasing the brightness of the image. |
| Auto Power Off (minutes) | Sets the length of the auto power-off countdown timer between 1 and 240 minutes. | The default is 120 minutes.<br>The timer begins to count down when the projector no longer receives a video signal. The timer finishes when the projector enters Standby mode.<br>Select 0 to turn off the timer. |
| Zoom | Adjusts the zoom to the center of the image in or out from 0 to 30. | The default is 0.<br>This setting affects image adjustments done mechanically to the boom. |
| Projector ID | Displays the projector's unique ID number (from 0 to 99) within your organization's network. | |

| Setting | Use | Notes |
|---|---|---|
| Aspect Ratio | Adjusts the image output to **Fill Screen**, **Match Input** or **16:9**. | **Fill Screen** produces an image that fills the entire screen with stretching and scaling.<br>**Match Input** matches the projector's aspect ratio to the input's aspect ratio. As a result, black bands could appear along the top and bottom edges of the screen horizontally (letterbox format) or along the left and right edges of the screen vertically (pillarbox format).<br>**16:9** changes the output to 16:9 by letterboxing the image, which is recommended for use with HDTV and DVD/Blu-ray™ discs enhanced for wide-screen television.<br>See *Video format compatibility* on page 23 for descriptions of each mode. |
| Startup Screen | Selects the type of startup screen (**SMART**, **Capture User Startup Screen** or **Preview Startup Screen**). | This screen displays when the projector lamp is starting and an image isn't displayed.<br>**SMART** displays the default SMART logo on a blue background.<br>**Capture User Startup Screen** closes the on-screen display menu and captures the entire projected interactive whiteboard image. The captured image is displayed the next time that the on-screen display opens. (The capture can take up to one minute, depending on the complexity of the background graphic.)<br>**Preview Startup Screen** enables you to preview the default or captured startup screen. |
| On/Off | Resets projector settings to their default values. | If you select **On**, all projector settings reset to their defaults, reversing any menu changes you made. This action is irreversible.<br>Don't adjust this setting unless you want to reset all of the applied settings, or unless you're advised to by SMART Technical Support (smarttech.com/contactsupport). |

| Setting | Use | Notes |
|---|---|---|
| **Network menu** | | |
| Network | Activates the network features. | |
| Status | Displays the current network status (**Connected**, **Disconnected** or **Off**). | |
| DHCP | Displays the status of the network's Dynamic Host Condition Protocol (DHCP) as **On** or **Off**. | **On** automatically assigns the DHCP server's IP address to the projector.<br>**Off** enables an administrator to assign an IP address manually. |
| Password Reminder | E-mails the network password to the e-mail recipient. | See *Web page management* on page 54 to set up a destination e-mail address. |
| IP Address | Displays the projector's IP address in values between 0.0.0.0 and 255.255.255.255. | |
| Sub Mask | Displays the projector's subnet mask number in values between 0.0.0.0 and 255.255.255.255. | |
| Gateway | Displays the projector's network gateway in values between 0.0.0.0 and 255.255.255.255. | |
| DNS | Displays the projector's domain name server IP address in values between 0.0.0.0 and 255.255.255.255. | |
| MAC Address | Displays the projector's MAC address in xx-xx-xx-xx-xx-xx format. | |
| Group Name | Displays the projector's workgroup name as set by an administrator (maximum 12 characters). | |
| Projector Name | Displays the projector's name as set by an administrator (maximum 12 characters). | |
| Location | Displays the projector's location as set by an administrator (maximum 16 characters). | |
| Contact | Displays the contact name or number for projector support as set by an administrator (maximum 16 characters). | |

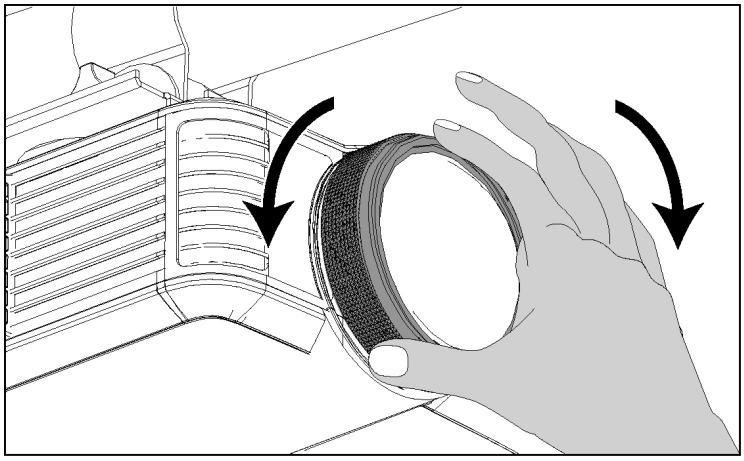
| Setting | Use | Notes |
|---|---|---|
| **Language menu** | | |
| Language | Selects language preference. | Projector menu support is available in English (default), Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, Finnish, French, German, Greek, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Portuguese (Portugal), Russian, Spanish and Swedish. |
| **Information menu** | | |
| Lamp Hours | Displays the current number of lamp usage hours from 0 to 4000 hours from when it was last reset. | Always reset Lamp Hours after you replace a lamp, because lamp service reminders are based on the current hours of use. See *Resetting the lamp timer* on page 35 for details on the lamp hours reset procedure. |
| Input | Displays the current input source (**VGA1**, **Composite** or **S-Video**). | |
| Resolution | Displays the projector's current display resolution. | |
| Firmware Version | Displays the projector's firmware version in x.x.x.x format. | |
| MPU Version | Displays the projector microprocessor's firmware version in x.x.x.x format. | |
| Network Version | Displays the projector's network card firmware version in x.x.x.x format. | |
| Model Number | Displays the projector's model number. | |
| Serial Number | Displays the projector's serial number. | |

## Focusing the image

To focus the projected image, adjust the focus ring on the projector lens.

### To focus the image

Rotate the focus ring right or left until the image is in focus.



## Adjusting the image

Refer to these notes when adjusting the projected image as described in the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153).

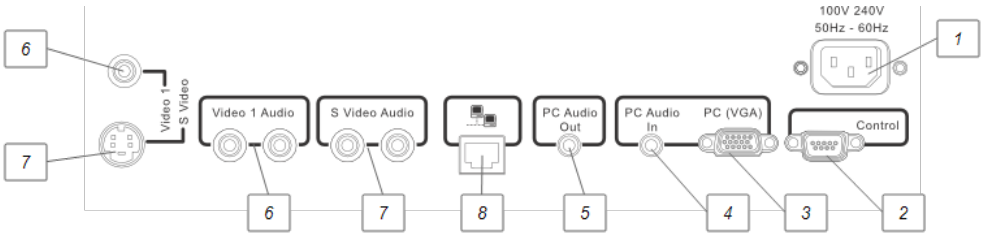
- Project a computer image set to the proper resolution while adjusting the image. If you don't have a computer, use the projector's default background so that you can see the full projected image clearly. If possible, use a pure white screen to allow for easier alignment.
- Use the mechanical adjustments described in the installation document to make image adjustments instead of the projector's on-screen menu options.
- Make sure the top of the projected image aligns with the top of the interactive whiteboard.
- Make sure the projector boom is centered on the mounting bracket. You can access the mounting bracket by removing the mounting bracket cover.
- Don't loosen the knob and locking screw too much or the projector won't hold the adjustments.
- As you tilt the projector up or lower its mounting boom to raise the image, the entire projected image increases or decreases in size, especially at the bottom of the projected image.
- When adjusting keystone (tilt), ensure that the top and bottom edges of the image are horizontal before you position the left and right edges of the image relative to your interactive whiteboard.
- When you move the projector forward or backward on the boom to make the image larger or smaller, you might need to tilt or turn the projector slightly to keep the image square.
- To fine-tune the image, you might need to repeat all steps described in the installation document in smaller increments.

## SMART V25 projector connection diagram

You can connect a variety of peripheral devices to your projector, including DVD/Blu-ray players, VCRs, document cameras, digital cameras, high-definition sources and audio output.

**NOTE**

You might need to purchase third-party adapters to connect certain peripheral devices.




| No. | Connector | Connect to: |
|---|---|---|
| 1 | Power | Power supply |
| 2 | DB9 RS-232F | Room control (not included) |
| 3 | DB15F RGB video input (VGA) | Computer (not included) |
| 4 | 3.5 mm phone jack audio input | Computer (not included) |
| 5 | 3.5 mm phone jack audio output | |
| 6 | RCA composite video input<br>(and left and right RCA audio input) | Video source (not included) |
| 7 | 4-pin mini-DIN S-video input<br>(and left and right RCA audio input) | S-video source (optional) |
| 8 | RJ45 | Network (for web page management and SNMP access) |

**NOTES**

- To connect your SMART Board 480 interactive whiteboard, see the *SMART Board 480 Interactive Whiteboard User's Guide* (smarttech.com/kb/156693).
- To connect accessories to your SMART Board interactive whiteboard, refer to the documents included with the accessories and consult the SMART Support website (smarttech.com/support) for additional information.

# Using your interactive whiteboard

Refer to the *SMART Board 480 Interactive Whiteboard User's Guide* (smarttech.com/kb/156693) for more information on using your interactive whiteboard.

When you connect your SMART Board interactive whiteboard system to a computer with SMART software, you can access the full capabilities of your interactive whiteboard.

For additional resources, go to smarttech.com, click the flag icon to the right of the SMART logo, and then select your country and language. In the Support section of this website, you'll find up-to-date, product-specific information, including setup instructions and specifications. The SMART Learning Space (learningspace.smarttech.com) also has free learning resources, hands-on lessons and information on how to get more training.

# Chapter 4
# Integrating other devices

Video format compatibility ..... 23
Native video format ..... 23
Video format compatibility ..... 24
HD and SD signal format compatibility ..... 25
Video system signal compatibility ..... 25
Connecting peripheral sources and outputs ..... 25

This chapter provides information on integrating your SMART Board 480iv interactive whiteboard system with peripheral devices.

## Video format compatibility

SMART V25 projectors have a native video format and various video format compatibility modes. You can change image appearances for certain formats and compatibilities.

### Native video format

The following table lists the native VESA RGB video formats for the projector.

| Projector | Resolution | Mode | Aspect ratio | Refresh rate (Hz) | Horizontal frequency (kHz) |
|---|---|---|---|---|---|
| SMART V25 | 1024 × 768 | XGA | 4:3 | 60 | 48 |

## Video format compatibility

The following table lists the projector's compatible VESA RGB video formats by resolution, which you can adjust by using the aspect ratio commands described in *Default menu* on page 14.

| Resolution | Mode | Aspect ratio | Refresh rate (Hz) | "Match Input" appearance |
|---|---|---|---|---|
| 720 × 400 | 720×400_85 | 1.8:1 | 85 | Letterbox |
| 640 × 480 | VGA 60 | 4:3 | 60 | Full screen |
| 640 × 480 | VGA 72 | 4:3 | 73 | Full screen |
| 640 × 480 | VGA 75 | 4:3 | 75 | Full screen |
| 640 × 480 | VGA 85 | 4:3 | 85 | Full screen |
| 800 × 600 | SVGA 56 | 4:3 | 56 | Full screen |
| 800 × 600 | SVGA 60 | 4:3 | 60 | Full screen |
| 800 × 600 | SVGA 72 | 4:3 | 72 | Full screen |
| 800 × 600 | SVGA 75 | 4:3 | 75 | Full screen |
| 800 × 600 | SVGA 85 | 4:3 | 85 | Full screen |
| 832 × 624 | MAC 16" | 4:3 | 75 | Full screen |
| 1024 × 768 | XGA 60 | 4:3 | 60 | Full screen |
| 1024 × 768 | XGA 70 | 4:3 | 70 | Full screen |
| 1024 × 768 | XGA 75 | 4:3 | 75 | Full screen |
| 1024 × 768 | XGA 85 | 4:3 | 85 | Full screen |
| 1024 × 768 | MAC 19" | 4:3 | 75 | Full screen |
| 1152 × 864 | SXGA1 75 | 4:3 | 75 | Full screen |
| 1280 × 768 | SXGA1 75 | 1.67:1 | 60 | Letterbox |
| 1280 × 800 | WXGA | 16:10 | 60 | Letterbox |
| 1280 × 800 | WXGA | 16:10 | 58 | Letterbox |
| 1280 × 960 | Quad VGA 60 | 4:3 | 60 | Full screen |
| 1280 × 960 | Quad VGA 85 | 4:3 | 85 | Full screen |
| 1280 × 1024 | SXGA3 60 | 5:4 | 60 | Letterbox |
| 1280 × 1024 | SXGA3 75 | 5:4 | 75 | Letterbox |
| 1280 × 1024 | SXGA3 85 | 5:4 | 85 | Letterbox |
| 1400 × 1050 | SXGA+ | 4:3 | 60 | Full screen |
| 1600 × 1200 | UXGA | 4:3 | 60 | Full screen |

## HD and SD signal format compatibility

The following table lists the projector's high definition and standard definition format signal compatibility, which you can adjust by using the aspect ratio commands described in *Default menu* on page 14.

| Signal format | Aspect ratio | Horizontal frequency (kHz) | Vertical frequency (Hz) | "Match Input" appearance |
|---|---|---|---|---|
| 480i (DVD player) (640 × 480) | 4:3 | 15.73 | 59.94 | Full screen |
| 567i (DVD player) (720 × 576) | 5:4 | 15.63 | 50 | Letterbox |
| 720p | 16:9 | 44.96 | 59.94 | Letterbox |
| 720p | 16:9 | 35 | 50 | Letterbox |
| 1080i | 16:9 | 33.7 | 59.94 | Letterbox |
| 1080i | 16:9 | 28.1 | 50 | Letterbox |

## Video system signal compatibility

The following table lists the projector's video system signal compatibility, particularly for signals delivered over S-Video and Composite video connectors, which you can adjust by using the aspect ratio commands described in *Default menu* on page 14.

**NOTE**

The **16:9** command delivers all video modes with black bands along the top and bottom edges of the screen. The **Match Input** command could deliver video modes with blank bands along the top and bottom edges of the screen, depending on the input resolution.

| Video mode | Aspect ratio | Horizontal frequency (kHz) | Vertical frequency (Hz) |
|---|---|---|---|
| NTSC | 4:3 | 15.73 | 29.96 |
| PAL | 4:3 | 15.62 | 25 |
| SECAM | 4:3 | 15.62 | 25 |

# Connecting peripheral sources and outputs

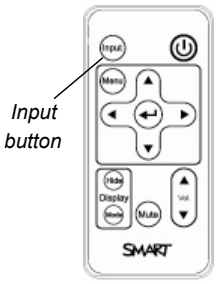
Follow these instructions if you have a peripheral device to connect to your interactive whiteboard system for a short time, such as a DVD/Blu-ray player.

**NOTE**

Measure the distance between the projector and the peripheral device you want to connect. Make sure each cable is long enough, has plenty of slack and can be placed safely in your room without presenting a trip hazard.

### To connect a peripheral source or output to your projector

1. Connect your peripheral device's input cables to the projector.
2. Switch input sources to the peripheral device by pressing the **Input** button on the remote control.



Chapter 5

# Maintaining your interactive whiteboard system

Maintaining your interactive whiteboard ..... 27
Focusing and adjusting the projector image ..... 27
Replacing the projector lamp ..... 28
Removing and replacing the projector lamp module ..... 28
Resetting the lamp timer ..... 35

This chapter includes methods for properly cleaning and preventing damage to your SMART Board 480iv interactive whiteboard system.

## Maintaining your interactive whiteboard

For information on maintaining your interactive whiteboard, see the *SMART Board 480 Interactive Whiteboard User's Guide* (smarttech.com/kb/156693).

## Focusing and adjusting the projector image

For information on focusing and adjusting the projector image, see *Focusing the image* on page 18 and *Adjusting the image* on page 19.

# Replacing the projector lamp

This section provides detailed instructions for replacing the projector lamp.

## Removing and replacing the projector lamp module

If the lamp fails, or if a replacement message appears on the SMART V25 projector screen, have a qualified person replace the projector lamp module.

**WARNING**

- Read the warnings, cautions and important information at the beginning of this document before attempting this procedure.
- Disconnect the power cable from the wall outlet before performing the following procedure.
- Two people are required to remove the projector from the boom and then replace it after replacing the projector lamp module.

**NOTE**

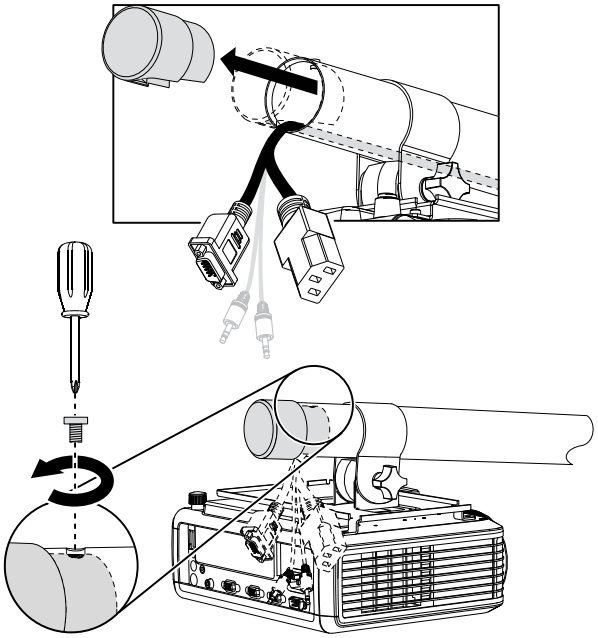
Make sure that you have a replacement projector lamp ready before accessing the service panel.

You need a Phillips No. 2 screwdriver and an M3 hex wrench to perform the following procedure.

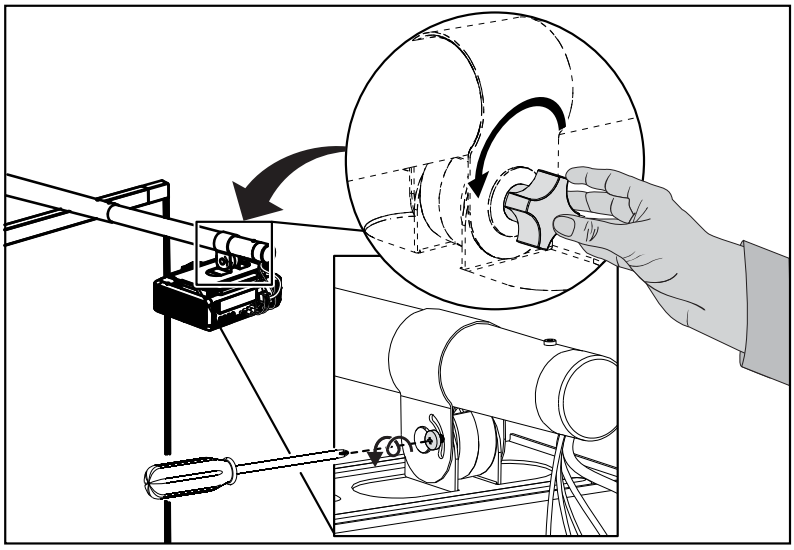
### To remove the projector from the boom

1. Press the **Power** ⏻ button twice on the remote control to put the system into Standby mode.
2. Wait at least 30 minutes for the projector to cool down completely, and then disconnect the power cable from the power outlet.
3. Disconnect all cables from the projector.

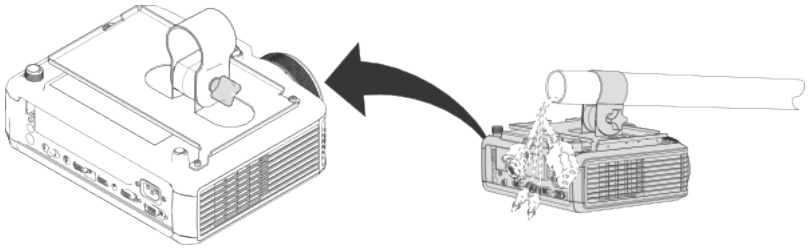
4. Using the screwdriver, loosen the screw from the boom end cap, and then remove and set aside the boom end cap and screw.



5. Loosen the locking screw and the knob on the projector mounting plate.



6. Slide the projector mounting plate and projector off of the boom.

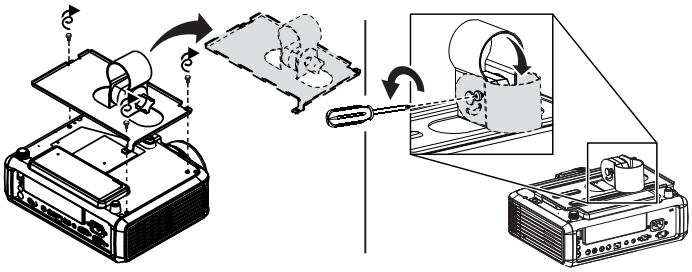


**NOTE**

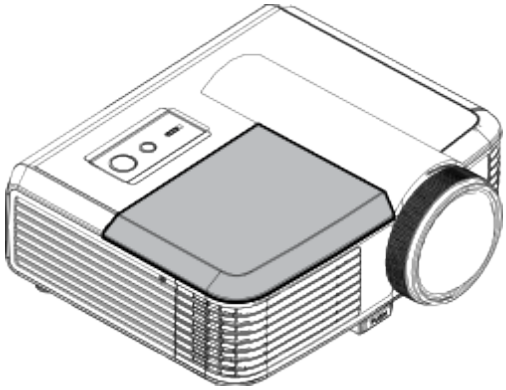
Take care when sliding the projector mounting plate over the cables.

7. Fold the clamp.

   Alternatively, use the M3 hex wrench to remove the three screws connecting the projector mounting plate to the projector, and then set aside the projector mounting plate and screws.

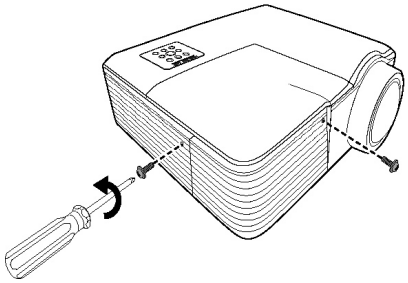


8. Turn over the projector so that the outer lamp cover is visible.

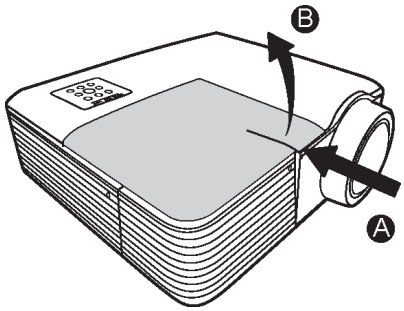


## To remove and replace the projector lamp module

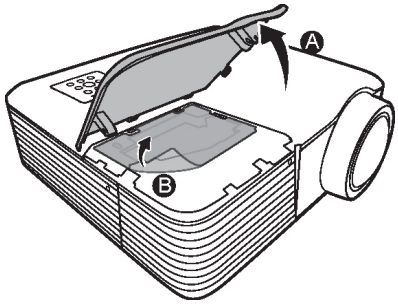
1. Using the screwdriver, remove the two screws from the lamp cover.



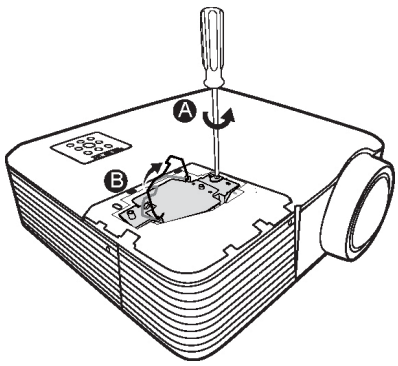
2. Remove the lamp cover, and then set it and the two screws aside in a safe place.



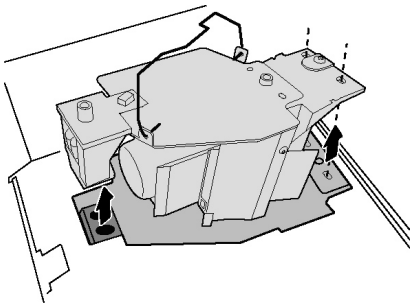

3. Remove the lamp protection film, and then set it in a safe place.




4. Using the screwdriver, loosen the screw on the lamp module.



5. Pull up on the lamp module's handle, and then remove the lamp.



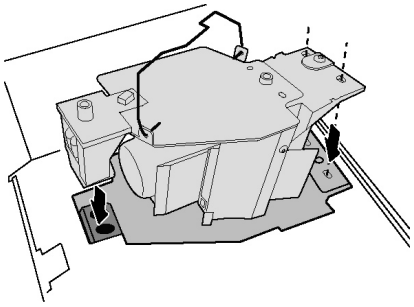
6. Put the old lamp module in a secure container and handle it gently until you recycle or dispose of it.

> **IMPORTANT**
>
> Recycle or dispose of the lamp module according to your local waste authority.

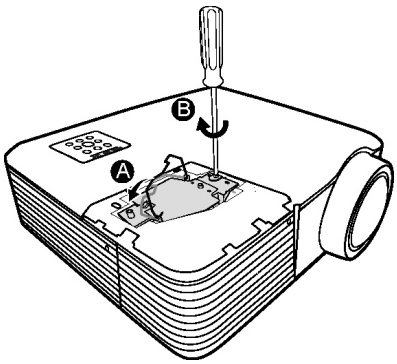
7. Remove the replacement lamp module from its packaging.

> **CAUTION**
>
> Do not touch any part of the lamp module except the housing.

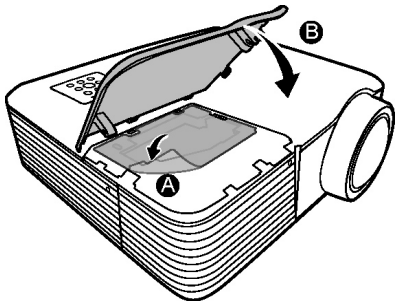
8. Lower the replacement lamp module into the slot, aligning it with the holes in the slot.



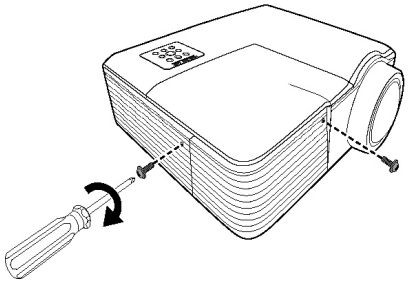
9. Using the screwdriver, tighten the screw on the lamp module.



10. Place the lamp protection film over the slot.

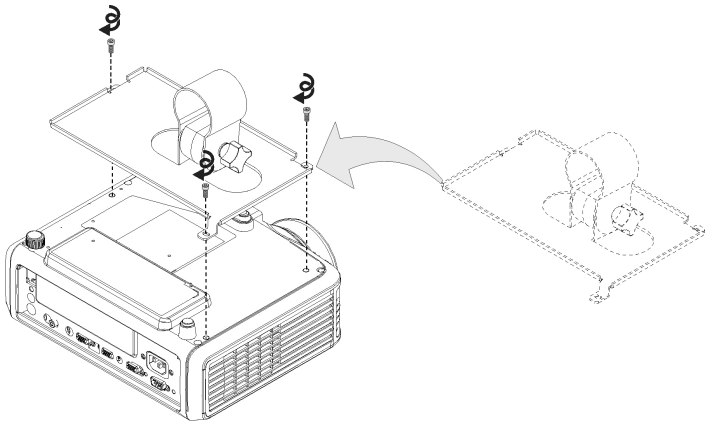



11. Replace the outer lamp cover, and then replace the screws holding the cover to the projector.

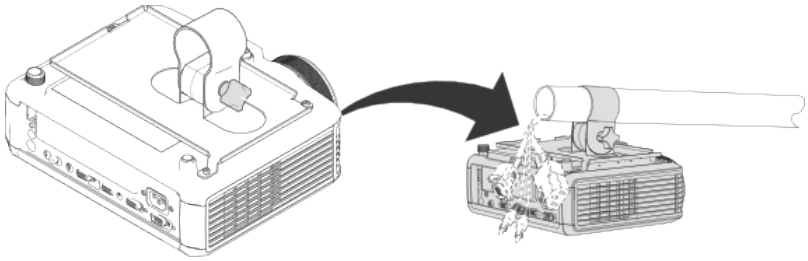


### To place the projector on the boom

1. Turn over the projector.
2. If required, replace the projector mounting plate on the projector.



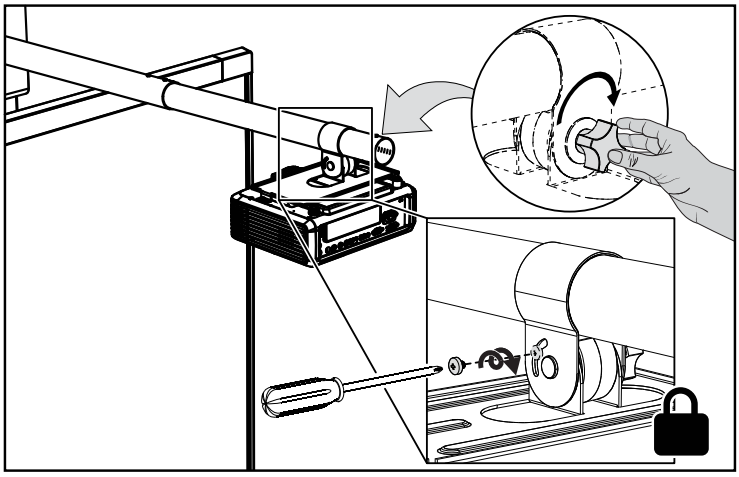
3. Slide the projector mounting plate and projector onto the boom.



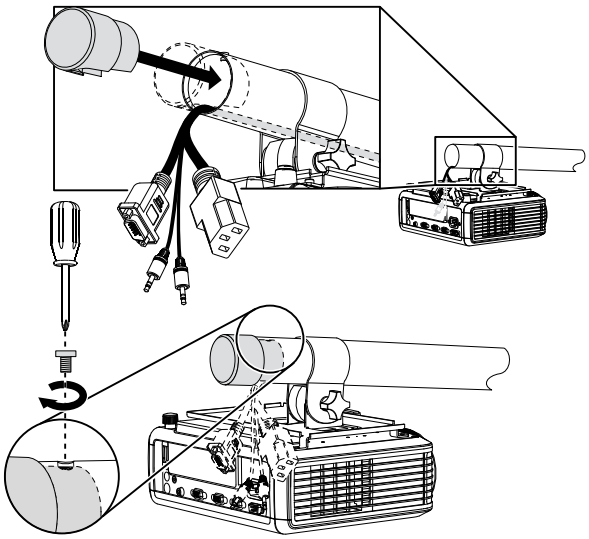
**NOTE**

Take care when sliding the projector mounting plate over the cables.

4. Tighten the knob and the locking screw.



5. Replace the boom end cap.



6. Connect the cables to the projector.
7. Connect the power cable to a power outlet.
8. Press the **Power** ⏻ button once on the remote control to confirm that the projector is operating and that the lamp module is correctly installed, and then wait for the projector to turn on completely.
9. Wait five minutes for the projector to warm up.

> **NOTE**
>
> You might need to adjust the projected image after you perform the previous procedures. For more information, see the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153) and *Adjusting the image* on page 19.

## Resetting the lamp timer

After you replace the lamp, you need to access the projector service menu and reset the lamp hour counter. To prevent accidental errors, only a system administrator should perform this procedure.

> **NOTE**
>
> Always reset the Lamp Hours after you replace the lamp, because lamp service reminders are based on the current hours of use.

### To reset the lamp timer

1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.

> **CAUTION**
>
> Do not adjust any settings in the service menu other than those listed in this guide. Changing other settings can damage or affect the operation of your projector and may invalidate your warranty.

2. Scroll down to the *Lamp Hour Reset* field, and then press **OK**.

   Both Lamp Hour values (Standard and Economy) are reset to zero.

   **CAUTION**

   Do not use the Lamp Hour Reset feature unless you have just replaced the lamp. Resetting the lamp hour counter on an old lamp can damage your projector as a result of lamp failure.

   **NOTE**

   You're unable to reset the Display Hour value because it's the running total of hours the projector has been in use.

3. Press the **Menu** button on the remote control.

   The *SMART V25 Settings* menu appears.

4. Select to confirm that Lamp Hour is reset to zero.

Chapter 6

# Troubleshooting your interactive whiteboard system


Correcting image alignment issues ..... 38
Diagnosing issues using the interactive whiteboard system indicators and controls ..... 38
- Interactive whiteboard indicators and controls ..... 38
- Projector lights and status ..... 39
- Projector error states ..... 40
  - Your projector doesn't respond to commands ..... 40
  - The "Projector Overheated" message appears ..... 40
  - The "Fan Failure" message appears ..... 41
  - The "Color Wheel Failure" message appears ..... 41
  - The "Lamp Failure" message appears ..... 42
  - The projector Power light isn't lit ..... 42

Resolving network communication issues ..... 43
Resolving audio issues ..... 43
Resolving video issues ..... 44
Resolving image issues ..... 44
- Loss of signal ..... 44
- No projected image ..... 45
- Partial, scrolling or incorrectly displayed image ..... 45
- The image from your connected laptop computer isn't projected ..... 46
- Unstable or flickering image ..... 46
- Your image has a vertical flickering bar ..... 47
- Unaligned projected image ..... 48

Accessing the service menu ..... 49
- Retrieving your password ..... 50
- Resetting the projector ..... 50

Locating serial numbers ..... 51
Transporting your interactive whiteboard system ..... 51

This chapter provides basic troubleshooting information for your interactive whiteboard system.

For issues not covered in this chapter, contact your authorized SMART reseller (smarttech.com/where) or consult the SMART Support website (smarttech.com/support).

# Correcting image alignment issues

Alignment errors occur when the projected image isn't perpendicular to the screen. Alignment errors can occur when you mount your interactive whiteboard system on an uneven surface or a wall that has obstructions, or if you swivel the projector too far from the vertical center of your interactive whiteboard.

Use the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153) to eliminate most image alignment issues.

# Diagnosing issues using the interactive whiteboard system indicators and controls

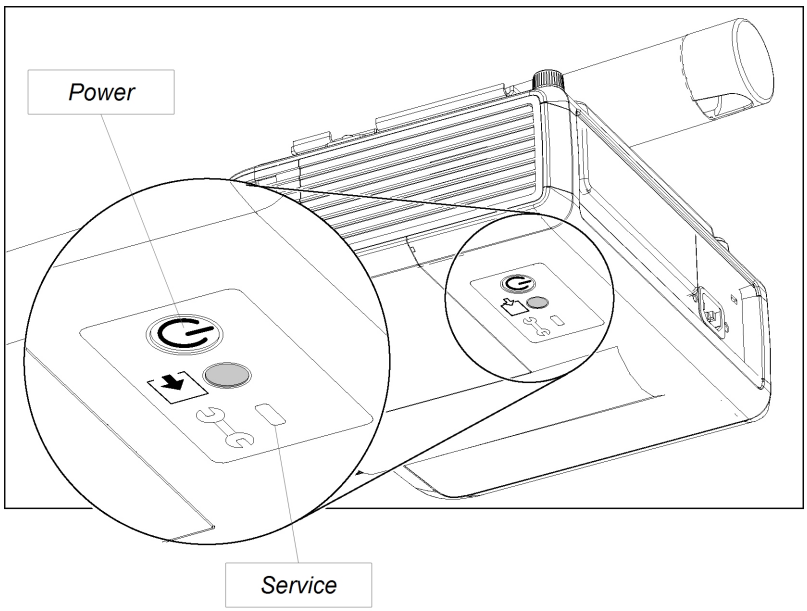
This section documents the indicators and controls of the interactive whiteboard system components.

## Interactive whiteboard indicators and controls

For more information to resolve common issues, see the *SMART Board 480 Interactive Whiteboard User's Guide* (smarttech.com/kb/156693).

## Projector lights and status

Two indicator lights (Power and Service) are located on the bottom of the SMART V25 projector. Specific light sequences convey information about the state of the projector, including errors.




**IMPORTANT**

After you resolve the projector's issue, disconnect and then connect the projector power cable to clear the indicator light sequence, and then reset the projector's status (see *Resetting the projector* on page 50).

| Power light | Service light | Message |
|---|---|---|
| Solid red | Off | The projector is off but still receiving power (Standby mode). Press the **Power** ⏻ button on the remote control to turn it on. |
| Flashing green | Off | The projector is in the powering (startup) state. Wait for the projector to finish turning on. |
| Solid green | Off | The projector is in the operating (on) state. Press the **Power** ⏻ button on the remote control twice to turn it off. |
| Flashing red | Off | The projector is in the cooling state. Wait for it to finish cooling. |
| Off | Flashing red | The projector is overheating. It could shut down automatically.<br>See *The "Projector Overheated" message appears* on the next page to troubleshoot the projector. |

| Power light | Service light | Message |
|---|---|---|
| Off | Solid red | The projector has a fan issue. It could shut down automatically.<br>See *The "Fan Failure" message appears* on the next page to troubleshoot the projector. |
| Off | Solid red | The projector has a color wheel issue.<br>See *The "Color Wheel Failure" message appears* on the next page to troubleshoot the projector. |
| Solid red | Flashing red | The projector has a lamp issue.<br>See *The "Lamp Failure" message appears* on page 42 to troubleshoot the projector. |
| Off | Off | The projector isn't receiving power.<br>See *The projector Power light isn't lit* on page 42 to troubleshoot the projector. |

## Projector error states

System administrators can solve or troubleshoot the following projector error states on their own prior to contacting SMART Technical Support. Performing initial troubleshooting on your projector will reduce the time of a support call.

### Your projector doesn't respond to commands

If your projector doesn't respond to commands or if it starts to display code after you enter a command, perform the following procedure.

**To restart an unresponsive projector**

1. Put the projector into Standby mode, and then wait 30 minutes for it to cool down.
2. Disconnect the power cable from the power outlet, and then wait at least 60 seconds.
3. Connect the power cable, and then turn on the projector.

### The "Projector Overheated" message appears

If the "Projector Overheated" message appears and the projector enters Standby mode during use, one of the following issues is occurring:

- The projector is overheating internally because of blocked air vents.
- The temperature outside the projector is too high.

**To resolve the "Projector Overheated" error**

1. Put the projector into Standby mode, and then wait 30 minutes for it to cool down.
2. If your room is hot, lower the temperature if possible.

3. Ensure that nothing is blocking the projector's air intake and exhaust.
4. Disconnect the power cable from the power outlet, and then wait at least 60 seconds.
5. Connect the power cable, and then turn on the projector.
6. If the previous steps don't resolve the issue, disconnect the power cable, and then contact your authorized SMART reseller (smarttech.com/where).

**The "Fan Failure" message appears**

If the "Fan Failure" message appears and the projector enters Standby mode during use, one or both of the following issues is occurring:

- The projector is overheating internally.
- One of the fans has failed.

### To resolve the "Fan Failure" error

1. Follow steps 1 to 5 of *To resolve the "Projector Overheated" error* on the previous page.
2. If the lamp doesn't illuminate, put the projector into Standby mode and wait 30 minutes for it to cool down.
3. Disconnect the power cable, and then contact your authorized SMART reseller (smarttech.com/where).

**The "Color Wheel Failure" message appears**

If the "Color Wheel Failure" message appears and the projector enters Standby mode during use, the projector has a color wheel issue.

### To resolve the "Color Wheel Failure" error

1. Put the projector into Standby mode, and then wait 30 minutes for it to cool down.
2. Disconnect the power cable from the power outlet, and then wait at least 60 seconds.
3. Connect the power cable, and then turn on the projector.
4. If the previous steps don't resolve the issue, disconnect the power cable, and then contact your authorized SMART reseller (smarttech.com/where).

### The "Lamp Failure" message appears

If the lamp turns off during use or doesn't turn on, one of the following issues is occurring:

- The lamp is overheating, likely due to blocked air vents.
- The lamp has reached the end of its life.
- The projector has an internal problem.

### To resolve the "Lamp Failure" error

1. Follow steps 1 to 5 of *To resolve the "Projector Overheated" error* on page 40.
2. If the lamp doesn't illuminate, put the projector into Standby mode and wait 30 minutes for it to cool down.
3. Disconnect the power cable.
4. Replace your lamp as described in *Removing and replacing the projector lamp module* on page 28.
5. If the projector still doesn't turn on or if it continues to display the lamp error message, disconnect the power cable, and then contact your authorized SMART reseller (smarttech.com/where).

### The projector Power light isn't lit

If the projector Power light isn't lit, one of the following issues is occurring:

- There was a power outage or a power surge.
- A circuit breaker or a safety switch was tripped.
- The projector isn't connected to the power source.
- The projector has an internal problem.

### To resolve the unlit projector Power light issue

1. Check the power source, and then make sure that all cables are connected.
2. Confirm that the projector is connected to an active power outlet.
3. Make sure the pins on the connectors aren't broken or bent.
4. Make sure the Hide Display feature on the remote is disabled. See *Using the remote control buttons* on page 11.
5. If the previous steps don't resolve the issue, disconnect the power cable and then contact your authorized SMART reseller (smarttech.com/where).

# Resolving network communication issues

If you don't have network access, perform the following procedure to troubleshoot your system.

### To resolve network communication issues

1. Ensure that your network cable is properly connected to the RJ45 connection on the projector's connection panel.
2. To activate the LAN, use the "network=on" RS-232 command (see *Projector programming commands* on page 60) or the "Network" projector menu option (see *Network menu* on page 16). The network function on the projector doesn't work until you send one of these commands.
3. Press the **Menu** button, and then select the **Network Settings** menu to check the IP address. See *Network menu* on page 16 for a description of the IP address field. Enter this IP address into your browser or SNMP agent.
4. If you still don't have network access, contact your network administrator. If your administrator is unable to resolve the issue, contact your authorized SMART reseller (smarttech.com/where).

# Resolving audio issues

You can connect an audio system to the audio output connector in the projector's connection panel. If no sound is coming from your audio system, perform the following procedure.

### To resolve audio issues

1. Ensure that the speakers' or audio system's cables are properly connected to the audio output plug on the projector's connection panel.
2. Press the **Mute** button on the projector's remote control, and if Audio Mute is on, turn it off.
3. Ensure that your speaker or audio system is on and that volume is enabled.
4. Check that your source input, such as your computer or video device, isn't malfunctioning, that its audio output is on and that its volume isn't set to the lowest position.
5. If the previous steps don't resolve the issue, contact your authorized SMART reseller (smarttech.com/where).

# Resolving video issues

If your projector has a frozen image, perform the following procedure.

**To resolve a frozen image**

1. Ensure that the Hide Display feature is off.
2. Press the **Hide** button on the projector's remote control to hide or show the display.
3. Ensure that your source device, such as your DVD player or computer, isn't malfunctioning.
4. Put the projector into Standby mode, and then wait 30 minutes for it to cool down.
5. Disconnect the power cable from the power outlet, and then wait at least 60 seconds.
6. Connect the power cable, and then turn on the projector.
7. If the previous steps don't resolve the issue, contact your authorized SMART reseller (smarttech.com/where).

# Resolving image issues

Computers, peripherals, source inputs and their connection cables might not be correctly set up to transmit their signals to your SMART Board interactive whiteboard system. Refer to *Video format compatibility* on page 23 and the following section to help resolve these issues.

## Loss of signal

If a visual source signal is lost or if the signal is being switched to a different device or input, the projector doesn't show a source signal and instead displays the SMART logo on a blue screen.

### To resolve signal loss issues

1. Wait approximately 45 seconds for the image to synchronize. Some video signals require a longer synchronization period.
2. If the image doesn't synchronize, check your cable connections to the projector.
3. Ensure that the image signal is compatible with the projector (see *Video format compatibility* on page 23).
4. If your projector still doesn't show a source signal, contact your authorized SMART reseller (smarttech.com/where).

## No projected image

If the projector displays no image at all, and the interactive whiteboard and projector power lights aren't on, perform the following procedure.

### To resolve projected image issues

1. Ensure that the power cable is connected to the power outlet.
2. Ensure that your cables are correctly and securely connected as described in the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153).
3. Check the power cable and VGA connector pins to make sure they aren't bent or broken.
4. Ensure that the projector lamp is installed securely.
5. Confirm that your projector is turned on and that the projector status lights are illuminated. If the status lights display unusual behavior, see *Projector lights and status* on page 39 to troubleshoot your system.

## Partial, scrolling or incorrectly displayed image

**NOTES**

- The following procedure applies to Windows® XP operating systems on desktop computers only.
- This procedure may vary depending on your version of Windows operating system and your system preferences.

**To resolve a partial, scrolling or incorrectly displayed image**

1. Select **Start > Control Panel**.
2. Double-click **Display**.

   The *Display Properties* window appears.
3. Click the **Settings** tab.
4. Verify that your display resolution setting is lower than or equal to 1024 × 768.
5. If the projector still doesn't display the entire image, perform the following procedure to change the monitor display.

**To change the monitor display**

1. Select **Start > Control Panel**.
2. Double-click **Display**.

   The *Display Properties* window appears.
3. Click the **Settings** tab.
4. Click **Advanced Properties**.
5. On the *Monitor* tab, click **Change**.
6. Click **Show all devices**, and then select **Standard monitor types** from the list.
7. In the *Models* list, select the resolution you need.
8. Verify that the resolution setting of the monitor display is lower than or equal to 1024 × 768.

## The image from your connected laptop computer isn't projected

Laptop computer settings can interfere with projector operations.

Some laptop computers deactivate their screens when you connect a secondary display device. Refer to your computer's manual for details on reactivating the computer's display screen.

## Unstable or flickering image

If the projector's image is unstable or flickering, you could have different tracking settings on your input source.

**IMPORTANT**

Write down your setting values before adjusting any of the settings in the following procedure.

### To resolve your unstable or flickering image

1. Adjust the **Tracking** setting in the on-screen display. See *Image Adjustment menu* on page 12.
2. Optionally, reset the projector as described in *Resetting the projector* on page 50 to adjust the tracking to its original value.

> **IMPORTANT**
>
> This action resets all values to their defaults.

## Your image has a vertical flickering bar

If the projector displays a vertical flickering bar, you could have different frequency settings on your input source.

> **IMPORTANT**
>
> Write down your setting values before adjusting any of the settings in the following procedure.

### To resolve the vertical flickering bar issue

1. Adjust the **Frequency** setting in the on-screen display. See *Image Adjustment menu* on page 12.
2. Check the display mode of your computer's graphics card. Make sure it matches one of the projector's compatible signal formats (see *Video format compatibility* on page 23). Refer to your computer's manual for more information.
3. Configure the display mode of your computer's graphics card to make it compatible with the projector. Refer to your computer's manual for more information.
4. Optionally, reset the projector as described in *Resetting the projector* on page 50 to adjust your frequency to its original value.

> **IMPORTANT**
>
> This action resets all values to their defaults.

## Unaligned projected image

The SMART V25 projector image can slip if the projector is moved often or installed in a location prone to vibration, such as next to a heavy door. Follow these precautions to help prevent the image from becoming misaligned:

- Make sure that the installation wall is plumb and square and doesn't move or vibrate excessively.
- Make sure that there are no obstructions behind the projector's wall-mounting bracket, and that the bracket is firmly secured to the wall according to the installation instructions.
- Make sure that the knob and locking screw are tight.
- Confirm that all cables are held in place with the appropriate cable clip.
- Adjust the projected image. See the included installation instructions for the SMART Board 480iv and 680iv interactive whiteboard system (smarttech.com/kb/153153) and *Adjusting the image* on page 19.

# Accessing the service menu

**CAUTION**

- To prevent tampering or unintentional changes, only system administrators should access the service menu. Do not share the service menu access code with casual users of your interactive whiteboard system.
- Do not adjust any settings in the service menu other than those listed in this guide. Changing other settings can damage or affect the operation of your projector and may invalidate your warranty.

## Retrieving your password

If you forget the projector's password, you can retrieve it by accessing the projector service menu directly from the projector or from the password settings menu on your projector's web page (see *Password settings* on page 57).

### To retrieve your password from the service menu

1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.
2. Scroll to *Password Get*, and then press **Enter** on the remote control.

   The password appears on the screen.
3. Write down the password.
4. Scroll to *Exit*, and then press **Enter** on the remote control to exit the projector service menu.

## Resetting the projector

At some point during troubleshooting, you might need to reset all projector settings.

**IMPORTANT**

This action is irreversible.

### To reset all projector settings

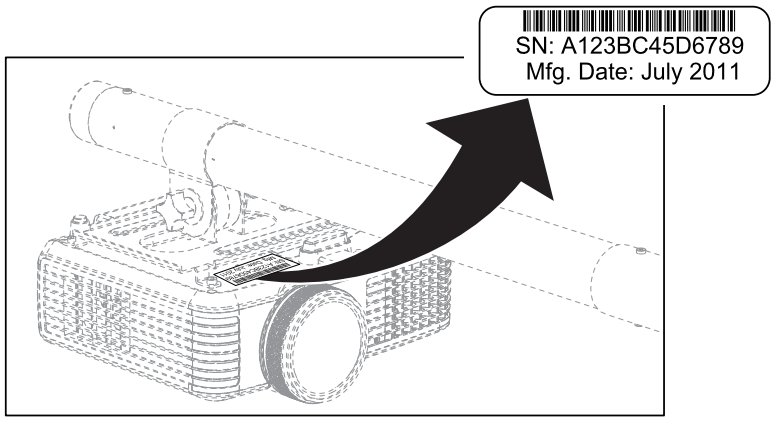
1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.
2. Scroll to *Factory Reset*, and then press **Enter** on the remote control.
3. Scroll to *Exit*, and then press **Enter** on the remote control to exit the projector service menu.

# Locating serial numbers

Before contacting SMART Technical Support, make note of your interactive whiteboard and projector serial numbers.

For the location of the SMART Board 480 interactive whiteboard serial number, see the *SMART Board 480 Interactive Whiteboard User's Guide* (smarttech.com/kb/156693).

The SMART V25 projector serial number is located on the top of the projector under the projector mounting plate.




**TIP**

You can also access the projector's serial number through the on-screen menu. For more information, see *Information menu* on page 17.

# Transporting your interactive whiteboard system

Save your original SMART Board interactive whiteboard packaging so that it's available if you need to transport your interactive whiteboard system. When required, repack it with all of the original packaging. This packaging was designed to provide optimal shock and vibration protection. If you no longer have your original packaging, purchase the same packaging directly from your authorized SMART reseller (smarttech.com/where).

If you prefer to use your own packaging materials, make sure you adequately protect your unit. Ship your interactive whiteboard in an upright position to deter shippers from placing heavy objects on it.

# Appendix A
# Remotely managing your interactive whiteboard system


Web page management ..... 54
- Accessing web page management ..... 54
- Home ..... 54
- Control panel ..... 54
- Network settings ..... 56
- E-mail alerts ..... 57
- Password settings ..... 57

Connecting your room control system to the SMART V25 projector ..... 58
- Pin configuration on the projector's RS-232 connector ..... 58
- Serial interface settings ..... 58

Projector programming commands ..... 60
- Projector power state controls ..... 60
- Command inventory ..... 60
- Value-based command methods ..... 60
  - Absolute values and adjustment values ..... 60
  - Video source specification values ..... 61
- Power state controls ..... 61
- Source selection controls ..... 62
- General source controls ..... 63
- Additional VGA source controls ..... 64
- Additional composite video source controls ..... 64
- Audio output controls ..... 65
- Network controls ..... 66
- System controls ..... 67

Simple Network Management Protocol (SNMP) ..... 70


This appendix includes detailed instructions on how to set up your computer or room control system to remotely manage your SMART Board 480iv interactive whiteboard system settings through an RS-232 serial interface.

# Web page management

You can access advanced setup features via the projector's web page. This web page enables you to manage the projector from a remote location using any computer connected to your intranet.

**NOTE**

To access the web page, your browser must support JavaScript™. Most commonly used browsers like Internet Explorer® and Firefox® support JavaScript.

## Accessing web page management

Before you can access the web page, you must connect the network cable to your projector (see the *SMART V25 projector connection diagram* on page 19). When you first connect your projector to a network, you can view the IP address by accessing the projector's Network Settings menu page (see *Network settings* on page 56).

### To use the management web page

1. Start your Internet browser.
2. Type the IP address in the address line field, and then press ENTER.

   The *SMART V25 Projector Settings* window appears.
3. Select the menu options in the left pane to access the settings on each page.
4. Select settings or type them with your computer's keyboard, and then press **Submit** or another action button next to each setting you change.

## Home

The Home menu page displays basic projector information and enables you to select the on-screen display language.

| Submenu setting | Description |
|---|---|
| Language | Displays language options |
| Projector Information | Displays current projector information |

## Control panel

This menu enables you to manage the projector audio and video status, alerts and appearances using an Internet browser.

| Submenu setting | Description |
|---|---|
| Power | Turns the projector on or puts it into Standby mode.<br>Select the **Power ON** or **Power OFF** button. |
| Volume | Adjusts the projector's volume from 0 to 40. |
| Mute | Turns the mute settings on or off. Select **On** to mute the projector's sound and **Off** to turn off mute. |
| Volume Control | Enables volume control. Select **On** to enable volume adjustment and select **Off** to disable volume adjustment if you prefer to use your audio system or speaker (not included) controls. |
| Source | Adjusts the input source to **VGA1**, **Composite** or **S-Video**. |
| Emergency Alert | Turns the on-screen alert broadcast message on or off. When enabled, this message displays over the current projected image. |
| Alert Message | Displays an on-screen emergency notification message (maximum 60 characters). |

## Network settings

This menu allows you to enable or disable Dynamic Host Control Protocol (DHCP) and to set the network-related addresses and names.

| Submenu setting | Description |
|---|---|
| DHCP | Turns the network's DHCP on or off.<br>• **On** automatically assigns the DHCP server's IP address to the projector.<br>• **Off** enables you to assign an IP address manually. |
| IP Address | Displays the projector's IP address in values between 0.0.0.0 and 255.255.255.255. |
| Subnet Mask | Displays the projector's subnet mask number in values between 0.0.0.0 and 255.255.255.255. |
| Gateway | Displays the projector's default network gateway in values between 0.0.0.0 and 255.255.255.255. |
| DNS | Displays the projector's IP address for your network's primary domain name server in values between 0.0.0.0 and 255.255.255.255. |
| Group Name | Displays the projector's workgroup name (maximum 12 characters). |
| Projector Name | Displays the projector's name (maximum 12 characters). |
| Location | Displays the projector's location (maximum 16 characters). |
| Contact | Displays the contact name or number for projector support (maximum 16 characters). |
| SNMP | Turns the SNMP's MIB function on or off. |
| Read-Only Community | Sets a password with each SNMP get request that enables access to the device.<br>**NOTE**<br>The default for Read-Only Community is public. |
| Read/Write Community | Sets a password with each SNMP set request that enables access to the device.<br>**NOTE**<br>The default for Read/Write Community is public. |
| Trap Destination Address | Displays the projector's trap destination address in values between 0.0.0.0 and 255.255.255.255. The trap destination address is the IP address of the computer assigned to handle unsolicited data generated by projector trap events, such as power down, power up or other issues. |

## E-mail alerts

This menu enables you to enter your preferred address for receiving e-mail alerts and adjust related settings.

| Submenu setting | Description |
|---|---|
| E-mail Alert | Selects **Enable** to turn on or **Disable** to turn off the E-mail Alert function. |
| To | Defines the e-mail address of the e-mail alert recipient. |
| CC | Defines the e-mail address of the e-mail alert “copy to” recipient. |
| From | Defines the e-mail address of the user who sends the e-mail alert. |
| Subject | Displays the e-mail alert subject. |
| Outgoing SMTP server | Defines the Simple Mail Transfer Protocol (SMTP) server. |
| Username | Defines the SMTP server user name. |
| Password | Defines the SMTP server password. |
| Alert Condition | Sends e-mail alerts whenever **Lamp Warning**, **Low Lamp Life**, **Temperature Warning** and **Fan Lock** conditions occur. Select the settings you want, and then press **Submit**.<br>**NOTE**<br>The projector sends an alert e-mail (SMART Alert) to your e-mail address. Press **E-mail Alert Test** to confirm your e-mail address by sending a test e-mail (SMART Alert-Test Mail). |

## Password settings

This menu provides a security function that allows an administrator to manage projector use and enable the Administrator Password function.

| Submenu setting | Description |
|---|---|
| Password | Accesses Web Management for the first time when you press the **Enable** button and enter a password. When the password function is enabled, the administrator password is required to access Web Management. Select **Disable** to turn the projector on without a password. |

**NOTES**

- The first time you use the password settings, the default password value is four numbers, for example, 1234.
- The maximum allowable password length is four numbers or letters.
- If you forget the projector password, refer to *Accessing the service menu* on page 49.

# Connecting your room control system to the SMART V25 projector

By connecting a computer or room control system to the RS-232 serial interface of the SMART V25 projector, you can select video inputs, start up or shut down your interactive whiteboard system and request information such as projector lamp use, current settings and network addresses.

## Pin configuration on the projector's RS-232 connector

The following table provides the pin configuration on the SMART V25 projector. This pin configuration follows a three-wire connection so that a straight-through male-to-female RS-232 serial cable connects to the projector's serial interface in the following arrangement:

| Pin number | Projector's female RS-232 connector |
|---|---|
| 2 | Transmit |
| 3 | Receive |
| 5 | Signal Ground |

## Serial interface settings

The serial interface of the SMART V25 projector acts as a Data Communications Equipment (DCE) device and its settings can't be configured. You must configure your computer's serial communication program (such as Microsoft® HyperTerminal) or your room control system's serial communication settings with the following values:

| Setting | Value |
|---|---|
| Data Rate | 19.2 kbps |
| Data Bits | 8 |
| Parity | None |
| Stop Bits | 1 |
| Flow Control | None |

**NOTES**

- Asynchronous mode is disabled by default in the projector.
- All commands should be in ASCII format. Terminate all commands with a carriage return.
- All responses from the projector are terminated with a command prompt. Wait until you receive the command prompt indicating that the system is ready for another command before you continue.
- The room control feature of the projector is always on.

### To configure your computer's serial interface

1. Turn on your computer, and then start your serial communications program or terminal emulation program.
2. Connect your computer to the serial connection cable you previously connected to the projector.
3. Configure your serial interface settings using the values in the table in the previous section, and then press ENTER.

   The > character appears as a command prompt on the line that follows.

   **NOTE**

   If no message or an error message appears, your serial interface configuration isn't correct. Repeat step 3.

4. Type commands to configure your settings.

   **NOTES**

   - To see a list of available commands, type **?** and then press ENTER.
   - If you're using a terminal emulation program, turn on your program's local echo setting to see characters as you type them.

# Projector programming commands

This section documents the projector programming commands.

## Projector power state controls

SMART V25 projectors respond to commands only at certain power levels and times.

There are five projector power states:

- Powering (startup)
- On (operating)
- Cooling
- Confirm off
- Idle (Standby mode)

## Command inventory

SMART V25 projectors respond to the commands in the tables on the following pages. To see a list of valid commands in the projector's current power state, type **?** and press ENTER.

**NOTES**

- Send a command only after the projector sends a command prompt.
- Commands aren't case sensitive. Type commands exactly as they appear in the left column of the tables, with the proper value or setting in the center column.
- Check your entries carefully before entering your commands.
- Press ENTER after typing each command.
- After the projector executes a command, it generates a response.
- To prevent buffer overrun, don't send another command until you receive the next command prompt.

## Value-based command methods

**Absolute values and adjustment values**

You can use the command's target range to set an absolute value for a command or cause an adjustment to be made to the current value. To create an adjustment command, add a plus (+) or minus (-) symbol instead of the equal symbol (=) before the value change you want to enter.

All absolute values you enter must be within the command target range, and all adjustment values must equal a number within the command target range.

See the following example for adjusting projector brightness:

```
>get brightness
brightness=55
```

```
>set brightness=65
brightness=65
```

```
>set brightness+5
brightness=70
```

```
>set brightness-15
brightness=55
```

**Video source specification values**

You can use the source input field described in *Source selection controls* on the next page in a command to set an absolute value or adjustment value to a source other than the active source. You can do this while the selected source is inactive, but the source device must be connected, or you receive an invalid command response.

The operational parameters are VGA1, Composite or S-Video.

The following examples set the brightness of VGA1, regardless of whether it's the current source:

```
>set brightness vga1=65
brightness vga1=65
```

```
>set brightness vga1-7
brightness vga1=58
```

## Power state controls

These commands put the projector in and out of Standby mode and request the projector's current power state. The projector's power state determines whether certain commands are available at that time. These settings are available even when the projector is in Standby mode.

| Command | Response |
|---|---|
| on | powerstate=[field] |
| off | powerstate=[field] |
| off now | powerstate=[field] |
| get powerstate | powerstate=[field] |

The following table describes the power state commands:

| Command | Description |
|---|---|
| on | Turns on the projector. |
| off | Starts the shutdown process. A dialog box appears with the message, “Press Power Button to Turn off Projector.” You must send a second **Off** command within 10 seconds to put the projector into Standby mode. |
| off now | Shuts down the projector immediately. You can’t delay or cancel this command. |
| get powerstate | Indicates the projector’s current power state. |

The following table describes the power state fields:

| Field | Description |
|---|---|
| Powering | The projector is turning on. |
| On | The projector is on. |
| Cooling | The projector is cooling. |
| Confirm off | **Confirm off** is a non-selectable power state that is returned during stage one of the two-button **Off** sequence. |
| Idle | The projector is off but still receiving power (Standby mode). |

## Source selection controls

These commands switch input sources. The source type determines which commands can be accepted.

| Command | Response | Available in Standby mode |
|---|---|---|
| get input | input=[field] | Yes |
| set input=[field] | input=[field] | No |

The following table describes the source selection commands:

| Command | Description |
|---|---|
| get input | Returns the projector’s current input. |
| set input=[field] | Returns the input to one of the selectable fields. |

The following table describes the source selection response fields:

| Field | Description |
|---|---|
| VGA1 | Switches source to the VGA 1 input connector. |
| Composite | Switches source to the Composite video connector. |
| S-Video | Switches source to the S-Video input connector. |
| None | A non-selectable value that appears when you enter a “get input” command while the projector is in Standby mode. |

## General source controls

The following source controls apply to all input sources. These controls are unavailable when the projector is in Standby mode. You can specify custom color values for all inputs.

These commands inform you of the current source settings.

| Command | Response |
|---|---|
| get displaymode | displaymode=[current display mode setting] |
| get brightness | brightness=[current brightness setting] |
| get contrast | contrast=[current contrast setting] |
| get whitepeaking | whitepeaking=[current whitepeaking setting] |
| get degamma | degamma=[current degamma setting] |
| get red | red=[current red color setting] |
| get green | green=[current green color setting] |
| get blue | blue=[current blue color setting] |
| get cyan | cyan=[current cyan color setting] |
| get magenta | magenta=[current magenta color setting] |
| get yellow | yellow=[current yellow color setting] |
| get videofreeze | videofreeze=[current video freeze setting] |

These commands control the appearance of your source. These settings are unavailable when the projector is in Standby mode or when the source is disconnected. See *Value-based command methods* on page 60 for setting absolute and adjustment commands.

| Command | Command target range | Response |
|---|---|---|
| set displaymode [target] | =SMART Presentation<br>=Bright Classroom<br>=Dark Classroom<br>=sRGB<br>=User | displaymode=[target] |
| set brightness [value] | =0 to =100 | brightness=[value] |
| set contrast [value] | =0 to =100 | contrast=[value] |
| set whitepeaking [value] | =0 to =10 | whitepeaking=[value] |
| set degamma [value] | =0 to =3 | degamma=[value] |
| set red [value] | =0 to =100 | red=[value] |
| set green [value] | =0 to =100 | green=[value] |
| set blue [value] | =0 to =100 | blue=[value] |
| set cyan [value] | =0 to =100 | cyan=[value] |
| set magenta [value] | =0 to =100 | magenta=[value] |
| set yellow [value] | =0 to =100 | yellow=[value] |
| set videofreeze [target] | =on<br>=off | videofreeze=[target] |

## Additional VGA source controls

Your VGA source supports all the general source controls described in *General source controls* on the previous page, as well as the commands listed in this section. These settings are unavailable when the projector is in Standby mode or when the VGA sources are disconnected.

**NOTE**

Some of these commands are invalid with composite video sources.

These commands inform you of the current VGA source settings.

| Command | Response |
|---|---|
| get frequency | frequency=[current frequency setting] |
| get tracking | tracking=[current tracking setting] |
| get saturation | saturation=[current saturation setting] |
| get tint | tint=[current tint setting] |
| get sharpness | sharpness=[current sharpness setting] |

These commands control the appearance of your VGA source. These settings are unavailable when the projector is in Standby mode or when the VGA source is disconnected. See *Value-based command methods* on page 60 for setting absolute and adjustment commands.

| Command | Command target range | Response |
|---|---|---|
| set frequency [value] | =-5 to =5 | frequency=[value] |
| set tracking [value] | =0 to =63 | tracking=[value] |
| set saturation [value] | =0 to =100 | saturation=[value] |
| set tint [value] | =0 to =100 | tint=[value] |
| set sharpness [value] | =0 to =31 | sharpness=[value] |

## Additional composite video source controls

Your composite video source supports all the general source controls described on the previous page as well as the commands listed in this section. These settings are unavailable when the projector is in Standby mode or when the composite video source is disconnected.

**NOTE**

Some of these commands are invalid with VGA video sources.

These commands inform you of the current composite video source settings.

| Command | Response |
|---|---|
| get saturation | saturation=[current saturation setting] |
| get tint | tint=[current tint setting] |
| get sharpness | sharpness=[current sharpness setting] |

These commands control the appearance of your composite video source. See *Value-based command methods* on page 60 for setting absolute and adjustment commands.

| Command | Command target range | Response |
|---|---|---|
| set saturation [value] | =0 to =100 | saturation=[value] |
| set tint [value] | =0 to =100 | tint=[value] |
| set sharpness [value] | =0 to =31 | sharpness=[value] |

## Audio output controls

These commands control your projector's audio output to your audio system (not included). Audio output controls aren't defined by the video source. These settings are unavailable when the projector is in Standby mode.

These commands inform you of the current audio output settings.

| Command | Response |
|---|---|
| get volume | volume=[current volume setting] |
| get mute | mute=[current mute setting] |
| get volumecontrol | volumecontrol=[current volume control setting] |
| get cc | cc=[current closed captioning language setting] |

These commands control your audio output settings. See *Value-based command methods* on page 60 for setting absolute and adjustment commands.

| Command | Command target range | Response |
|---|---|---|
| set volume [value] | =0 to =40 | volume=[value] |
| set mute [target] | =on<br>=off | mute=[target] |
| set volumecontrol [target] | =on<br>=off | volumecontrol=[target] |
| set cc [target] | =cc1<br>=cc2<br>=off | cc=[target] |

**NOTE**

Typically, cc1 displays English (U.S.) subtitles, while cc2 displays other regional languages, such as French or Spanish, depending on television channel or media setup.

## Network controls

These commands control your projector's network status and settings. These settings are available even when the projector is in Standby mode. You must locally set the network commands to on, which is located in the on-screen display (OSD) for the network abilities to work.

These commands inform you of the current network settings.

| Command | Response |
|---|---|
| get netstatus | netstatus=connected<br>netstatus=disconnected<br>netstatus=disabled |
| get dhcp | dhcp=[current DHCP status] |
| get ipaddr | ipaddr=[current IP address] |
| get subnetmask | subnetmask=[current subnet mask number] |
| get gateway | gateway=[current network gateway] |
| get primarydns | primarydns=[current primary domain server] |
| get macaddr | macaddr=[current MAC address] |

These commands control your network settings.

| Command | Command target range | Response |
|---|---|---|
| set dhcp [target] | =on<br>=off | dhcp=[current] |
| set ipaddr [target] | =0.0.0.0 to =255.255.255.255 | ipaddr=[current] |
| set subnetmask [target] | =0.0.0.0 to =255.255.255.255 | subnetmask=[current] |
| set gateway [target] | =0.0.0.0 to =255.255.255.255 | gateway=[current] |
| set primarydns [target] | =0.0.0.0 to =255.255.255.255 | primarydns=[current] |

## System controls

These commands enable you to switch system settings and access system information.

These commands inform you of the current system settings. These commands are unavailable when the projector is in Standby mode.

| Command | Response |
|---|---|
| get autosignal | autosignal=[current auto signal detection setting] |
| get lampreminder | lampreminder=[current lamp reminder setting] |
| get highbrightness | highbrightness=[current lamp brightness setting] |
| get autopoweroff | autopoweroff=[current auto power off setting] |
| get zoom | zoom=[current zoom setting] |
| get projectorid | projectorid=[current projector ID number] |
| get hposition | hposition=[current horizontal position setting] |
| get vposition | vposition=[current vertical position setting] |
| get aspectratio | aspectratio=[current projector aspect ratio] |
| get projectionmode | projectionmode=[current projection mode] |
| get startupscreen | startupscreen=[current startup screen setting] |
| get resolution | resolution=[current input resolution] |
| get language | language=[current language setting] |
| get groupname | groupname=[current projector group name] |
| get projectorname | projectorname=[current projector name] |
| get locationinfo | locationinfo=[current projector location] |
| get contactinfo | contactinfo=[current support contact information] |
| get modelnum | modelnum=[current model number] |
| get videomute | videomute=[current video mute setting] |
| get 3denable | 3denable=[current 3D feature setting] |
| get 3dinvert | 3dinvert=[current 3D invert setting] |
| get 3dformat | 3dformat=[current 3D format] |
| get emergencyalertmsg | emergencyalertmsg=[current emergency alert message] |
| get emergencyalert | emergencyalert=[current emergency alert setting] |

These commands inform you of the current system settings. These commands are available even when the projector is in Standby mode.

| Command | Response |
|---|---|
| get lamphrs | lamphrs=[current lamp hours of operation] |
| get syshrs | syshrs=[current projector hours of operation] |
| get fwverddp | fwverddp=[current projector firmware version] |
| get fwvernet | fwvernet=[current network firmware version] |
| get fwvermpu | fwvermpu=[current processor firmware version] |
| get network | network=[current] |

These commands control the current system settings. These commands are unavailable when the projector is in Standby mode. See *Value-based command methods* on page 60 for setting absolute and adjustment commands.

| Command | Command target range | Response |
|---|---|---|
| set autosignal [target] | =on<br>=off | autosignal=[target] |
| set lampreminder [target] | =on<br>=off | lampreminder=[target] |
| set highbrightness [target] | =on<br>=off | highbrightness=[target] |
| set autopoweroff [value] | =0 to =240 | autopoweroff=[value] |
| set zoom [value] | =0 to =30 | zoom=[value] |
| set projectorid [value] | =0 to =99 | projectorid=[value] |
| set hposition [value] | =0 to =100 | hposition=[value] |
| set vposition [value] | =-5 to =5 | vposition=[value] |
| set aspectratio [target] | =fill<br>=match<br>=16:9 | aspectratio=[target] |
| set projectionmode [target] | =front<br>=ceiling<br>=rear<br>=rear ceiling | projectionmode=[target] |
| set startupscreen [target] | =smart<br>=usercapture<br>=preview | startupscreen=[target] |

| Command | Command target range | Response |
|---|---|---|
| set language [target] | =Chinese (Simplified)<br>=Chinese (Traditional)<br>=Czech<br>=Danish<br>=Dutch<br>=English<br>=Finnish<br>=French<br>=German<br>=Greek<br>=Italian<br>=Korean<br>=Japanese<br>=Norwegian<br>=Polish<br>=Portuguese (Brazil)<br>=Portuguese (Portugal)<br>=Russian<br>=Spanish<br>=Swedish | language=[target] |
| set groupname [description] | Enter a descriptor no more than 12 characters long. | groupname=[description] |
| set projectorname [description] | Enter a descriptor no more than 12 characters long. | projectorname=[description] |
| set locationinfo [description] | Enter a descriptor no more than 16 characters long. | locationinfo=[description] |
| set contactinfo [description] | Enter a descriptor no more than 16 characters long. | contactinfo=[description] |
| set videomute [target] | =on<br>=off | videomute=[target] |
| set 3denable [target] | =on<br>=off | 3denable=[target] |
| set 3dinvert [target] | =leftright<br>=rightleft | 3dinvert=[target] |
| set 3dformat [target] | =interleaved<br>=overunder | 3dformat=[target] |
| set emergencyalertmsg [description] | Enter a descriptor no more than 60 characters long. | emergencyalertmsg=[description] |
| set emergencyalert [target] | =on<br>=off | emergencyalert=[target] |

These commands control the current system settings. These commands are available even when the projector is in Standby mode.

| Command | Command target range | Response |
|---|---|---|
| set restoredefaults | [none] | restoredefaults=done |
| set lamphrs [target] | =0 | lamphrs=0 |
| set network [target] | =on<br>=off | network=[target] |

**NOTE**

The Network settings features are off by default. Select **On** to activate these features.

# Simple Network Management Protocol (SNMP)

SMART V25 projectors support a list of SNMP commands as described in the management information base (MIB) file. You can download this file by browsing to smarttech.com/software and clicking the MIB files link in the *Hardware* section for the SMART V25 projector.

The SNMP agent supports SNMP version 1. Upload the MIB file to your SNMP management system application, and then use it as described in your application's user guide.

Appendix B

# Hardware environmental compliance

SMART Technologies supports global efforts to ensure that electronic equipment is manufactured, sold and disposed of in a safe and environmentally friendly manner.

## Waste Electrical and Electronic Equipment regulations (WEEE directive)

Waste Electrical and Electronic Equipment regulations apply to all electrical and electronic equipment sold within the European Union.

When you dispose of any electrical or electronic equipment, including SMART Technologies products, we strongly encourage you to properly recycle the electronic product when it has reached end of its life. If you require further information, please contact your reseller or SMART Technologies for information on which recycling agency to contact.

## Restriction of Certain Hazardous Substances (RoHS directive)

This product meets the requirements of the European Union's Restriction of Certain Hazardous Substances (RoHS) directive 2002/95/EC.

Consequently, this product also complies with other regulations that have arisen in various geographical areas, and that reference the European Union's RoHS directive.

## Batteries

Batteries are regulated in many countries. Check with your reseller to find out how to recycle used batteries.

There are special regulations that must be met when shipping a product that has a lithium ion battery packaged with the product or shipping a lithium ion battery. When returning a SMART Technologies

product which contains a lithium ion battery or returning a lithium ion battery, call SMART Technologies RMA for information on these special shipping regulations:

- 1.866.518.6791, Option 4 (U.S./Canada)
- 1.403.228.5940 (all other countries)

## Packaging

Many countries have regulations restricting the use of certain heavy metals in product packaging. The packaging used by SMART Technologies to ship products complies with applicable packaging laws.

## China's Electronic Information Products regulations

China regulates products that are classified as EIP (Electronic Information Products). SMART Technologies products fall under this classification and meet the requirements for China's EIP regulations.

## U.S. *Consumer Product Safety Improvement Act*

The United States has enacted the *Consumer Product Safety Improvement Act* which limits the lead (Pb) content in products used by children. SMART Technologies is committed to complying with this initiative.

# Index


## 3

3.5 mm audio connectors 20

## A

accessories
  included 4
  optional 4
alarms 55
aspect ratios 23-25
audio
  connections for 20
  controlling volume of 55, 65
  muting 11, 65
  resolving issues with 43

## B

batteries 9, 71
Blu-ray 25

## C

cameras 25
cautions ii
Chinese regulations 72
closed captioning 65
color wheel 41
composite video connections 25, 62, 64
connection diagrams
  projector 19
consumer product safety 72
contact person 56

## D

DHCP 56, 66
DNS 66
document cameras 25
dust v
DVDs 25

## E

e-mail alerts 57
EIP regulations 72
electrostatic discharge v
emergency alerts 55
emissions v
environmental requirements v
European Union regulations 71

## F

fans 41
flickering 46
focus 18

## H

HD signal compatibility 25
head space clearance 6
height 6

## I

image
  adjusting 19
  correcting alignment issues with 38

focusing 18
resolving issues with 44
important information iv
indicator lights 38
input selection 55, 62
installation
choosing a height 6
choosing a location 5
securing 6
interactive whiteboard
about 2
indicators and controls of 38
maintaining 27
using 21
IP address 56, 66


## L


lamp module
replacing 28
resolving issues with 42
laptop computers
troubleshooting issues with 46
LEDs See indicator lights
letterboxing 24-25
light sources 5
lithium ion batteries 71
location 5, 56


## M


MAC address 66
MAC support 24
mounting template 6
mute control 11, 65


## N


native video formats 23
network communication 20, 43, 56, 66


## O


options 4
original packaging 51


## P


packaging 72
passwords 50, 57
pen 4
pen tray
about 2
peripheral sources 25
pillarboxing 24-25
power 20, 55, 60-61
projector
about 3
adjusting settings for 11
adjusting the image of 19
connection diagram for 19
displaying the name of 56
focusing the image of 18
installing 5
lights and status of 39
locating the serial number on 51
remotely managing 53
replacing the lamp of 28
routing cables from 7
troubleshooting 40
using your remote control with 9
video format compatibility for 23


## Q


quad VGA support 24


## R


RCA jacks 20
refresh rates 23-24
remote control
about 4
installing the battery 9
using the buttons 11
RJ45 connector 20
RoHS directive 71

room control 53
RS-232 serial interface 20, 58

## S

S-video connections 20, 25, 62
SD signal compatibility 25
serial interface See RS-232 serial interface
serial number 51
signal loss 44
SMART Board interactive whiteboard See interactive whiteboard
SMART V25 projector See projector
SMTP 57
SNMP 70
sound See audio
subnet mask 56, 66
SVGA support 24
SXGA support 24

## T

temperatures, operating and storage v
transportation 51
trap destination address 56
troubleshooting 37

## U

U.S. regulations 72
UXGA support 24

## V

V25 projector See projector
VGA connections 20, 62, 64
VGA support 24
video
  connections for 20
  format compatibility for 23
  resolving issues with 44
volume control 65

## W

warnings i
water and fluid resistance v
web page management 54
WEEE directive 71
whiteboard See interactive whiteboard

## X

XGA support 24

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